NOVEMBER 1952

FIREMEN

FIFTY-SEVENTH YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

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In this day of mechanical achievement—there are many fine fire engines—but Ahrens-Fox stands in a class by itself.

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Chief H. L. Baldwin wearing his shock-proof M.S.A. Helmet. The Kansas City, Mo., department has standardized on this proved head protection.

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NEWTON UPPER FALLS 64, MASSACHUSETTS
IN CANADA: NORTHERN ELECTRIC COMPANY, LTD., BELLEVILLE, ONTARIO

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JOHN BEAN two-pump design makes the HPV Fire Fighter the most remarkable piece of equipment of its kind.

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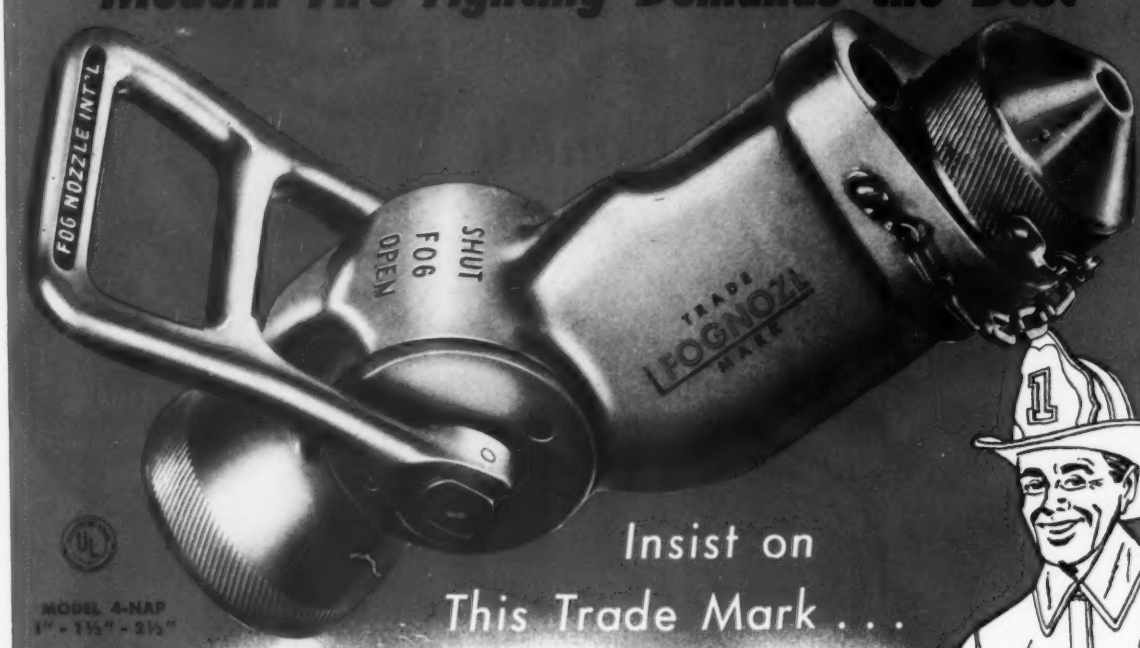

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This Trade Mark . . .

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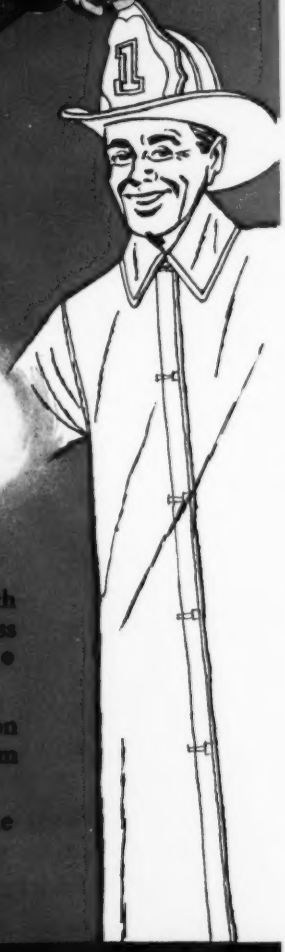

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WOOSTER, OHIO

Firemen

Volume 19 — Number 11

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NATIONAL FIRE PROTECTION ASSOCIATION

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Cover Picture

This month's cover shows volunteers and members of the Cedar Falls, Iowa, Fire Department moving a hose line into position for fighting a fire on the property of the Shell Petroleum Company on August 9. The fire started late at night when an explosion occurred in a building used for the filling of liquefied petroleum gas cylinders. The only attendant on duty was severely burned but managed to run to a nearby gasoline station to telephone an alarm.

The Cedar Falls Fire Department, headed by Chief Dick Kennison (NFPA Member), responded but fire had already involved scores of filled cylinders near the building, a delivery truck containing fifty filled cylinders, and an empty gasoline transport truck. A partially emptied railroad tank car was also involved. Many fusible plugs in the cylinders melted and the escaping gas burned freely.

Fire fighters confined their efforts to cooling exposures with 2½-in. lines and successfully protected two nearby 30,000 gallon supply tanks. Fire and police departments were greatly aided by a large number of volunteers from nearby towns who helped in handling hose lines, directing traffic, establishing communications, and setting up stations for first aid treatment. (Cover photo by Carl Franks, Cedar Rapids, Iowa.)

Road Tests for Fire Trucks

It is well known that all too many fire trucks are overloaded or underpowered. It is not generally appreciated that many commercial motors with sufficient power to pass pumping tests with flying colors will not give satisfactory road performance to meet the minimum requirements for fire service as detailed in the NFPA Specifications for Motor Fire Apparatus and approved by the National Board of Fire Underwriters and by the International Association of Fire Chiefs. These specifications print the road performance tests in bold face type to emphasize their importance. Unfortunately, however, while pumps are carefully tested for performance upon delivery, before acceptance, all too few fire departments have made it a practice to carefully check the road performance called for in the specifications even though a fire truck without good road performance may be a liability to the department.

Perhaps the reason for lack of enforcement of road tests has been the lack of a simple, easy to use, test procedure. Accordingly, we believe that the fire service is indebted to Mr. Nils G. Bjorck of the Ward-LaFrance Truck Corporation for the simple test methods presented on pages 16 and 17 of this issue. These should enable any fire department, not only to test road performance of new apparatus against the standard specifications, but to see how far above or below standard road requirements their existing apparatus performs.

Many fire departments which bought trucks under suitable performance specifications have continued to add new equipment, adding weight to the apparatus so that its present road performance may be sub-standard, indicating the need for another vehicle or squad truck to carry the additional appliances.

Each chief of an NFPA member fire department or IAFC member recently received a free copy of the 1952 Specifications for Motor Fire Apparatus through the courtesy of NFPA and the NBFU. Section 45 on page 16 of the specs is devoted to road tests for fire apparatus. It is suggested that each fire department consider application of these tests to its fire trucks.

New Pay Rates for Fire Fighters

The Civil Service Commission at San Francisco recently certified new monthly wage scales for fire fighters of that city. These rates, retroactive to July 1, will go into effect as soon as the funds are in the City Treasury.

Chief	$1,009
Deputy Chief	849
Assistant Chief	689
Battalion Chief	596
Captain	469
Lieutenant	436
Engineer	408
4th Year Fireman	375
3rd Year Fireman	360
2nd Year Fireman	340
1st Year Fireman	325

State and Provincial Firemen Training — 1952

THIS year's report of firemen's training in the United States and Canada shows that emphasis is still being placed upon civil defense instruction, training of members of industrial fire brigades, and instructor-training. The summaries reported on the following pages include only those firemen who received training conducted directly as part of state or provincial training programs. Thousands more firemen were trained by local instructors, county-wide fire schools, and state firemen's associations.

Instruction in pump operation and in fire prevention appears to have been given more attention in the training programs. To assist in the education of fire fighters in the care and operation of pumpers, FIREMEN Magazine during the past year published a series of articles under the general title "Operating Fire Department Pumpers." Material for these articles was prepared by a sub-committee of the NFPA Committee on Firemen's Training. The series will soon be reprinted by the NFPA in a pocket-sized edition.

As an indication of the growing interest in firemen's training, the Fire Department Instructors' Conference, held in Memphis, Tennessee, had a record attendance of 1,119 members of the fire service. (See March, 1952, FIREMEN). Attendance figures of state fire schools and training programs also indicate that organized training is gaining greater appreciation.

Alabama. Ben E. Harris, Associate State Supervisor, in charge of Public Service Training, reports that 1,066 men were trained in part-time and full-time classes by local instructors at 20 training centers. In addition, 714 men were instructed by Chief R. Henry Ryan, State Instructor and Coordinator of Firemen Training. Chief Ryan spends most of his time with smaller departments but is also available to those departments having full-time or part-time qualified instructors. At the 5-day fire school conducted at the University of Alabama 164 men registered for training with 147 receiving certificates. This group included members from municipal fire departments, state institutions, hospitals, the Fire Marshal's Office, U. S. Government Installations, and industrial fire departments.

Chief Ryan who also serves as Secretary of the Alabama Association of Fire Chiefs reports that the Second Annual Conference of the Association was held in Opelika September 11. Newly elected officers included: Chief G. A. Mitchell, Opelika Fire Department, President; Chief Hoyt M. Ayers, Birmingham Fire Department, 1st Vice-President; Chief R. L. Lampley, Montgomery Fire Department, 2nd Vice-President; and Chief R. Henry Ryan, as Secretary-Treasurer.

ANNUAL STATEWIDE FIRE SCHOOLS, 1952

State	Firemen Attend.	No. Years Held
Alabama	164	16
Arkansas	93	
Colorado	600	19
Connecticut	250	11
Delaware	77	4
Florida	116	23
Georgia	697	1
Idaho	195	1
Illinois	520	28
Indiana	373	19
Iowa	497	28
Kentucky	512	29
Louisiana	89	21
Maryland	241	19
Michigan	330	24
Mississippi	62	1
Minnesota	195	24
Montana	35	12
Nebraska	612	15
New Hampshire	285	1
North Carolina	400	24
Ohio	61	7
Oklahoma	141	19
Pennsylvania	769	13
South Dakota	527	23
Tennessee	213	8
Texas	678	23
Utah	386	8
Virginia	106	6
Washington	225	—
West Virginia	165	21
1952 Total	9,614	
1951 Total	9,279	

TOTAL FIREMEN RECEIVING TRAINING
(State and Provincial Programs Only)
Year Ending June 30, 1952

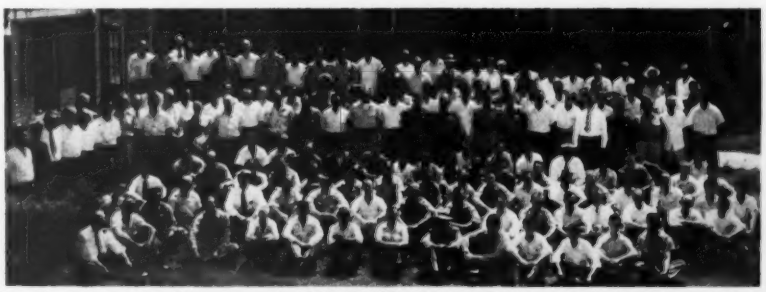
State		State	
Alabama	1,927	Nebraska	5,819
Arkansas	2,560	Nevada	633
California	6,413	New Hampshire	535
Colorado	3,538	New York	8,891
Connecticut	1,088	North Carolina	400
Delaware	871	Ohio	2,145
Florida	711	Oklahoma	1,168
Georgia	4,435	Oregon	3,239
Idaho	244	Pennsylvania	3,180
Illinois	520*	South Dakota	1,327
Indiana	4,449	Tennessee	514
Iowa	4,827	Texas	5,004
Kansas	1,097	Utah	1,073
Kentucky	1,403	Virginia	397
Louisiana	186	Washington	1,589
Maine	512	West Virginia	465
Maryland	2,059	Wisconsin	278
Massachusetts	1,364		
Michigan	3,698	Total U. S.	*83,322
Minnesota	1,647	Ontario	1,775
Mississippi	1,388	Br. Columbia	3,175
Missouri	1,143	Nova Scotia	1,381
Montana	585		
		Grand Total	89,653

*Complete total of training not available.

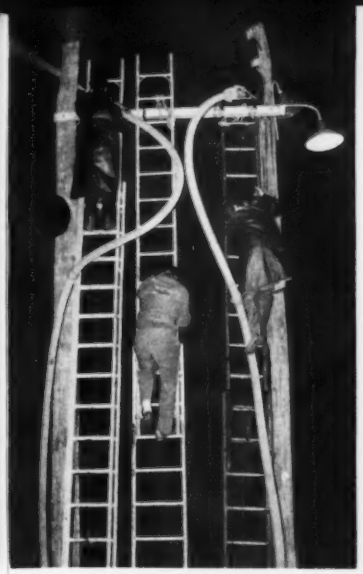
Arkansas. According to a report from J. C. Ruppert, State Supervisor, Trade and Industrial Education, 2,560 fire fighters enrolled for training on a regional or local basis during last year. The Arkansas State Fire School for teaching training methods to fire department instructors had 93 men in attendance.

British Columbia. According to Fire Marshal W. A. Walker of Vancouver 3,175 fire fighters received training in the Province during the past year. Training is conducted by a Traveling Instructional Unit of the Fire Marshal's office. This unit was formed in 1947 and consists of three qualified instructors who travel throughout British Columbia, spending a minimum of two days in every city, municipality, or town that has a paid or volunteer fire department. This permits fire department members to use their own equipment during instruction and to present their local problems to the instructors. Since the Traveling Instructional Unit was organized more than 3,000 certificates for completion of training have been issued.

California: Thomas S. Ward, (Member NFPA Committee on Firemen's Training), Supervisor of Service Training, State Department of Education that the California Fire Training Program reached a total of 6,413 men who were trained by the group of traveling instructors. A total of 95 zone classes were held for 1,980 fire fighters from 251 departments, while 4,433 fire fighters were trained in departmental classes. In addition 1,042 men representing 108 fire departments enrolled for training under the California Technical Institute of Fire Training in the following cities: Sacramento had 32 men enrolled representing 15 departments; Oakland, 260 men representing 43 departments; Fresno, 27 men from 9 departments; Los Angeles, 518 men from 32 departments; and San Diego, 205 men from 9 departments.



Fire department members who attended the 16th Annual Firemen's Training School held at the University of Alabama.



Firemen's Training Highlights

(Read clockwise from upper left picture)

(1) Hamburg, N. Y. Volunteers operate charged lines from scaffold during a night training session.

(2) Los Angeles County. Fire Department members using water fog to extinguish burning gasoline in a simulated tank truck fire.

(3) Columbia, S. Carolina. The recently built drill tower of the Columbia Fire Department.

(4) Duncan, British Columbia. Volunteers of the Duncan Fire Department built this pumper mounted on a GMC chassis.

(5) Columbia, South Carolina. Members of the Columbia Fire Department practicing hose and ladder evolutions on the drill tower.

(6) New Haven, Connecticut. Trainees at the New Haven Fire College using fog on an oil pit fire.

(7) Seattle, Washington. Chairman J. R. Cook of the fire school in Seattle shown with training aids used for fire department instruction by the State Board for Vocational Education.

(8) New Haven, Connecticut. Deputy Chief Thomas Collins explains a pumper panel to trainees at the New Haven Fire College.

(9) Hamburg, New York. Hamburg Fire Department members demonstrate use of a tanker supplying a pumper.

(10) College Park, Maryland. Fire Chief Gerald Glaubitz of Morningside directs his crew in extinguishing a flammable liquids fire on the grounds of the Maryland Fire College.

(11) Lafayette, Indiana. Mr. Eugene Fields of the Rescue Division of the USCD demonstrated this rescue unit at the 11th Annual Indiana Fire Department Instructors' Conference held at the Indianapolis Fire Department drill school.

Members of the Los Angeles County Fire Department who completed the training course are being presented with diplomas by Chief C. R. Gehr, Chief Engineer of the Fire Protection Districts of the County. Supervisor Herbert Lagg and Training Officer Mabie are standing at right.

Colorado: C. O. Bonnelle, State Firemanship Instructor of the State Board of Vocational Education reports that 3,538 firemen enrolled for training in 60 centers during the past year. In addition, 600 fire fighters attended the Colorado State Firemen's Association Fire School and Convention, and 485 firemen attended 7 Area schools.

Connecticut. Laurence W. Eddy (Member NFPA Committee on Firemen's Training), Supervisor of Service Training, State Department of Education, reports that 1,088 men participated in organized firemen's training during last year. At the Annual Fire College held in New Haven, May 19–24, sections were conducted in Fire Officers Training, Fire Marshals, and Standard and Advanced Firemanship. A new section was added in Industrial and Institutional Fire Protection to meet the increased interest in plant protection caused by Civil Defense requirements. The State Labor Department and Office of Civil Defense cooperated in organizing this section. A general session in rescue practice was provided by the U.S. Office of Civil Defense. Total attendance for these training sessions was 250 men from 69 towns in Connecticut and from 7 other states. In addition, 1200 to 1500 firemen attended the annual Firefighters Field Day at the closing session of the Fire College.

Drillmasters' monthly conferences were conducted with an average attendance of 18. Regional School Courses were also conducted throughout the state. Twenty-six classes of 30 hours each were held for a total of 674 firemen representing 96 departments or separate companies. Auxiliary Firemen courses were conducted by drillmasters in 4 communities for which certificates were awarded to 99 men. Fire Protection Courses were inaugurated in cooperation with the State Technical Institute and the Factory Insurance Association. Two 36-hour courses were attended by 47 men from insurance companies, fire departments, state fire marshal's office, and industrial plants.

Delaware. Frank M. Forstburg, Conference Leader Trainer in Trades and Industries, Department of Public Instruction, reports that 794 firemen participated in weekly training at 39 centers. In addition, 77 firemen attended the Third Annual Short Course for Firemen at the University of Delaware in August, 1951.

Florida: Itinerant programs of training were given in 43 Florida towns during the past year with 595 students participating, according to a report from W. H. Barnett, Superintendent of the Florida State Fire College. Another group of 116 students participated in classes held at the Fire College. During the rest of 1952 an additional 38 towns are scheduled to receive itinerant training. Scheduled classes at the Fire College will be held in two 5-week periods from May 11 to June 12 and from July 20 to August 21.

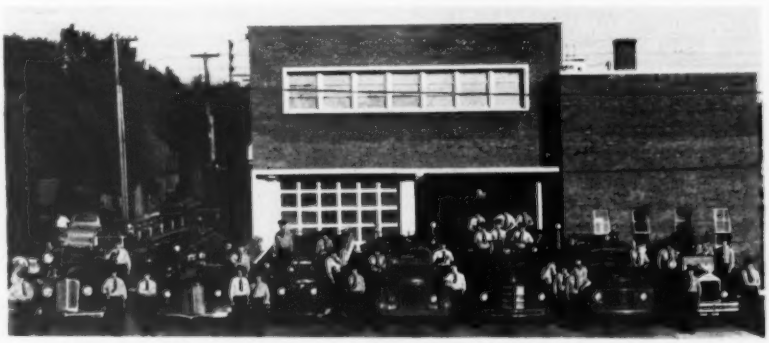
Georgia. Possibly the greatest advance in firemen's training in Georgia will result from the organizing of the Georgia State Firemen's Association, according to a report from J. F. Cannon, Public Service Occupations Training, Industrial Education Department. The organizational meeting of the Association was held on April 24 and tentative by-laws were approved (see FIREMEN for August, 1952). The Association will establish, operate, and maintain schools of instruction for fire prevention and related subjects pertaining to firemen training.

Considerable progress in expansion has been made in Public Service Occupations Training. A total of 2,601 firemen representing 231 towns and communities received instruction from 15 area coordinator-instructors employed on a part-time basis. A two-day fire prevention school conducted in Atlanta had an attendance of 277. Paid instructors and members of the Atlanta Fire Department instructed at the two sessions of the Georgia State Fire College which had a total attendance of 697. In addition, two zone schools were conducted with an enrollment of 168 firemen from 41 fire departments. Local firemanship training programs are in operation in 29 cities and towns with an enrollment of 615. During the year 4 leadership-instructor training courses were conducted with a total enrollment of 79. A total of 4,435 firemen participated in all of the training activities in the state.

Idaho. Chief Steve Taylor, Boise Fire Department, reports that a total of 49 men participated in 5-week training courses conducted by the State Board of Vocational Education through the cooperation of the Boise Junior College and the Boise Fire Department. These included special classes held at the Boise Fire Department for the training of fire officers with 17 men attending. A similar course was conducted by Mr. Sam R. Glenn of the State Board for Vocational Education at the Idaho Falls Fire Department with 13 men attending. A total of 195 men attended the Idaho State School held in Boise in June.

Illinois. Director George W. Harper of the Illinois Fire College reports that attendance at the classes conducted June 10–13 amounted to 520. This included 81 fire chiefs, 41 assistant chiefs, 52 other officers, 205 firemen, 19 fire district and city officials, 24 representatives of the industrial fire service, 21 from the fire inspection service, 19 fire marshals, 25 exhibitor and manufacturing representatives, and 33 others. Other firemen received instruction at regional schools conducted by the State Department of Fire Prevention.

Indiana. Francis Hartman, Chief of Firemen Training School, Purdue University, Lafayette, Indiana, reports that 373 firemen attended the 19th Annual State Firemen's School conducted at Purdue University in May. In addition, the 8th Annual Arson Investigators' Seminar had an attendance of 366. Four special schools conducted for members of industrial and institutional fire brigades



The Boise Fire Department held "open house" during the Idaho State Fire School. Members of the department, shown with apparatus at the 16th and Front Street Fire Station, gave a number of training and fire fighting demonstrations for visiting firemen and the public.

had 308 fire fighters participating. An instructor-training school, held at the Indianapolis Fire Department Drill School, had an attendance of 407. Regional and departmental schools held during the year had a combined attendance of 3,225. In addition, activities in public education were conducted by representatives of the fire department and Public Safety Institute of the Purdue University. Total figures for Indiana show that 4,449 firemen received instruction in 147 schools conducted by state instructors.

Iowa. Mark Brosier of the Engineering Extension Service of Iowa State College reports that a total of 4,827 firemen received organized training in that state during the past year. Of this total 497 men from 200 cities and 60 industries in Iowa and from 7 other states attended the 28th Annual Fire School at Iowa State College May 20–23. County fire instructors using station wagons containing fire control appliances traveled throughout the state to bring training to many of the 916 organized fire departments in Iowa. A Fire Department Inspector's Short Course had 31 men who completed the 30-hour course of instruction. Another 30-hour course was given to 17 men who attended an Instructor's Training class. The 4th Annual Dubuque Regional Fire School, sponsored by the Engineering Extension Service of Iowa State College and the Dubuque Fire Department through the courtesy of Chief Thomas B. Hickson, had an attendance of 129 men. A training class was conducted for the Des Moines fire department and 56 officers from the grades of Lieutenant to Chief completed the 30-hour course.

The Firemanship Training Program also included industrial fire safety schools for industrial plant representatives. A total of 422 men enrolled in the 19 schools held during the past year. The State Board for Vocational Education held 19 vocational schools of 6-hour duration.

Kansas. During the past year a total of 1,097 firemen received training according to a report by Gerald Pearson, Director of State Extension Classes and Firemen Training Centers. This includes attendance at the 22nd Annual Kansas Fire School.

Kentucky. Captain V. A. Beam, Coordinator of Firemen's Training, Department of Education, reports that 891 firemen received training through 31 local schools and 2 regional schools during the past year. Secretary James M. Donovan, Jr., of the Kentucky Fire Safety Commission reports that the 29th Annual Fire School held at the University of Kentucky had a record attendance of 512 representing 75 percent of Kentucky cities, 50 industrial plants, and 30 other non-municipal groups.

Resuscitation training at the 1952 Iowa State Fire School.

Hose evolutions at the Kansas Fire School

Louisiana. Chief Robert A. Bogan of the Baton Rouge Fire Department Member NFPA Committee on Firemen's Training) reports that 89 men representing 57 cities attended the 21st Annual Louisiana State Fire School held in Baton Rouge. Included in this group were 20 fire fighters who received instructor training. In addition, 4 sectional schools were held and were attended by 97 men representing 12 cities.

Maine. A total of 512 volunteer and paid firemen from 15 cities and towns registered for training programs under the direction of the State of Maine Department of Education, according to Maurice C. Varney, Director of Trade and Industrial Education.

Maryland. Robert C. Byrus, Director, Fire Service Extension, University of Maryland, reports that 2,059 fire fighters enrolled in training classes. The 19th Annual Firemen's Short Course was completed by 241 fire fighters. Of this group 1,430 received awards for completing training courses. Of particular interest were the pump schools which were conducted in 2-day courses. Each of the courses was devoted to a single make of pump with only those men from fire companies having that type of pump being invited to the course. A "first" at the Maryland Fire School was a short course on the use of radio covering rules and regulations and transmitting and receiving practices. A total of 176 men participated in this short course and represented 44 fire companies from Maryland, Pennsylvania, and Virginia.

Other classes conducted were: instructor training with 63 completing the course, instructor conferences with 74 enrolled, officers' conference with 350 enrolled, a fire inspector's short course with 105 enrolled and 72 receiving cards, and a school for rescue squads with 141 attending. Regional fire schools were conducted at Easton and Barton with a combined total of 99 firemen attending.

Massachusetts. The Massachusetts State Department of Education reports that 35 training classes were held during the past fiscal year. These included monthly meetings of drillmasters, instructor training courses for firemen, and special training for industrial plant brigades. A total of 1,364 members of fire departments participated in the training.

Michigan. During the past year 3,698 firemen participated in educational programs according to M. D. Whale, Supervisor, Public Service Training, Trade and Industrial Education. Under the direction of full-time instructors Chief Wallace Gannon and Captain Clifford Warner, in cooperation with the Extension Service of the University of Michigan, 1,806 firemen participated in the itinerant training program. This program operated in 68 communities and courses were from 20 to 30 hours' duration.

In-service firemen's training was conducted in 13 of the larger communities with an average of 100 hours of instruction for the 1,515 firemen participating. Vocational firemen instructors conducted 15 town schools in which 375 firemen participated.

The Annual Fire College held on the campus of the University of Michigan in Ann Arbor had 330 firemen enrolled. In addition regional schools were held at Marquette and Petoskey with a combined enrollment of 118. The annual Vocational Fireman Instructors Conference was held in Ann Arbor with 36 instructors participating in the 30-hour training session. The Fire Inspectors Institute held at Michigan State College in conjunction with the Michigan State Police Fire Division had 78 fire inspectors participating.

Minnesota. The Minnesota State Fire School had an attendance of 195, according to a report by Leonard C. Lund, (Chairman, NFPA Committee on Farm Fire Protection), Deputy Commissioner,

Fire fighters at the Maryland Fire School tackle a "structural" fire. Emory Kopf of the Training Committee is in white shirt at left. Instructor with white helmet is Harold Hirst, Fire Chief of the Naval Ordnance Laboratory.

Minnesota Fire Marshal Department. The school is sponsored by the State Fire Marshal, the University of Minnesota, the Minnesota State Firemen's Association, the Minnesota State Fire Chiefs' Association, the Fire Underwriters Inspection Bureau, the Minnesota Fire Prevention Association, the Minnesota Association of Mutual Insurance Companies, and the State Agricultural Society. The 5-day school was conducted on the campus of the University of Minnesota Agricultural School. Total reported firemen training throughout the State reached 1,647 fire fighters representing 433 towns.

Mississippi. Firemanship training enrollment in Mississippi totalled 1,388 according to a report from E. A. Parker, Supervisor of Trade and Industrial Education. In addition 222 men enrolled for fire prevention training while 62 firemen participated in training courses at the Annual Fire College held at Mississippi State College in June.

Missouri. Chief W. Bush Walden, Fire Instructor at the University of Missouri, reports that 1,143 firemen participated in training during the past year. The training program was conducted in 3 Regional Fire Conferences, 10 Departmental Schools, 19 Special Schools, and an Instructor Training School. Approximately 5,500 persons were contacted by all the phases of the program. Thirteen meetings on Civil Defense were held with four hours of instructor training given at each meeting. Total enrollment for these meetings was 503. Chief Walden accepted 7 assignments to address schools, hospitals, civic clubs and similar groups on fire prevention. He also assisted the Missouri State Fire Prevention Association in making inspections in 4 towns.

Montana. W. Lyle Roeseler, State Supervisor, Trade and Industrial Education, states that the 12th Annual Fire School held at Polson had an attendance of 35. In addition, Frank A. Hollenback, Itinerant Fireman Instructor, Trade and Industrial Education Department, conducted a total of 50 training classes for 30 fire departments, with a total attendance of 550 fire fighters.

Nebraska. A training report from Howard Gorham, State Supervisor of Trade and Industrial Education, shows that 5,819 firemen received training in the State of Nebraska during the past year. Of this total 924 participated in "circuit" firemen's training programs which were systematized as regular instruction in firemanship conducted by representatives of the State Board of Vocational Education. A total of 612 firemen attended the 15th Annual Nebraska State Fire School. Specialized fire training was given to 1,781 firemen; while 102 received training in fire prevention and fire protection. State and regional fire schools had a total enrollment of 1,196. Other instruction was given in organizing rural fire protection districts and mutual aid districts, teacher training, fire fighting demonstrations, testing, standardizing and repairing, and fire school and prevention programs. An additional group of 1,647 civilians and 6,267 students attended a special course in fire prevention and fire protection. A fire chiefs' refresher course had a total enrollment of 532; while industrial fire brigade training was conducted at five centers with a total of 91 members of industrial fire brigades attending.

Nevada. Trade Extension Classes were conducted in Reno and Las Vegas with a total of 113 firemen enrolled in the two centers according to a report from F. I. Wallace, State Supervisor, Trade and Education. In addition, firemen's training classes were held for volunteer firemen throughout the state. The classes were held in 27 centers, and instruction in fire fighting and fire prevention was given to a total of 520 volunteer firemen.

New Hampshire. Howard E. Swain, Supervisor of Trades and Industries, reports that 285 fire fighters received training at the Annual State Fire School, while an additional 250 participated in a Regional Fire School.

New York: Roswell L. Pooler, Public Relations Coordinator, Bureau of Fire Mobilization and Control, Division of Safety reports that a total of 8,891 fire fighters received training during the past year. This total includes 5,070 men who received Basic training, including 5,004 from New York State, 25 from Pennsylvania, and 41 who received special Civil Defense training. Intermediate Training was given to 2,483 fire fighters, 1,338 received Advanced Training, and State Fire Certificates were issued to 1,403.

During 1951 visual aids and the Student Workbook were introduced to the training programs. The Workbook, compiled by the fire training staff of the Division of Safety, is used by trainees during and immediately after instruction. Outlined statements, photographs, and sketches closely follow the Instructor's Lesson Plan and have been proven a worthwhile training mechanism.

Civil Defense training of fire fighters was intensified. Valuable test exercises of mutual aid response and assistance were held in 8 major cities to evaluate the adequacy and speed of responding units. In all, more than 4,300 fire service members manning over 500 pieces of apparatus were included in the test operations. The Division of Safety continued the State Civil Defense Rescue Training School. Six classes of more than 100 men have been graduated from the School.

North Carolina. State Fire Marshal Sherwood Brockwell, Deputy Commissioner of Insurance, reports that 400 firemen from 77 North Carolina fire departments and 7 South Carolina fire departments attended the 1952 North Carolina Fire College and drill school conducted in Charlotte. Of the 250 members from the North Carolina fire departments 29 this year completed 4 full sessions of the school and were awarded 1952 diplomas.

Nova Scotia. Fire Marshal S. S. Wright of the Department of Labor, Province of Nova Scotia, reports that 1,381 firemen and fire officers participated in 12 regional schools of 4 days' duration. The schools were organized under the direction of the Fire Marshal, and instructors were provided from fire departments, the Royal Canadian Navy, from electrical and medical teaching professions, and from safety detachments of industries in nearby mining areas. Another school will be held in Port Hawkesbury later this year.

Ohio: George L. Brandon, Consultant, Public Service Training, Ohio State University reports that during the past year 2,145 officers and fire fighters were enrolled for instruction. In addition, 61 persons were enrolled in the Ohio State Fire School and 23 were certified for instructor training.

Oklahoma. George Orgain, Fire Service Instructor, Trade and Education Department, Oklahoma A. & M. College, reports that a total of 1,168 firemen received instruction under the Oklahoma fire service programs. Of this group 141 enrolled at the 19th Annual Fire Service Training Short Course at Oklahoma A. & M. College, 322 received itinerant instruction, 686 received training from local instructors, and 19 participated in teacher training courses. A fire service training program for the Oklahoma State Firemen's Association was held at Oklahoma City with 339 fire fighters representing 53 towns and receiving 1,011 man hours of instruction.

Ontario: D. E. Barrett, Assistant Director of Fire Training reports that 7 regional schools were conducted in the province with 192 fire fighters receiving certificates in "Basic Fire Fighting Practices." Training is conducted by a travel-

New York State fire instructors held a week-long conference at Elmira to field-test training lessons.

ing unit of instructors who have a fully equipped pumper and an auxiliary panel truck for use in the week-long courses. More than 1300 other fire fighters representing 90 fire departments received itinerant instruction on particular evolutions. The Fire Inspection Practices Course of 40 hours duration in which the NFPA Inspection Manual is used as basic text had an enrollment of 28 fire inspectors from the larger municipalities. Three Radiation Monitoring Courses were conducted for 60 specialized fire fighting personnel, and 95 fire fighters were trained in four 20-hour Radiological Defense Orientation Courses. At the University of Toronto a 2-day conference was held for 100 municipal fire chiefs and senior officers. In addition, 243 special visits were made to municipal councils to assist in organizing new departments and to advise on fire problems in general.

Oregon. Elmer H. Halstead, State Supervisor, Public Service Training, reports that 3,239 firemen enrolled in fire training during the past year. Courses included instructor training, basic training, fire pump school, fire prevention and inspector schools, and officer training schools. According to the report the most valuable programs appeared to be the fire prevention and inspectors course in which 120 firemen were enrolled and the classes in pump operation which were given by an itinerant instructor in 22 fire departments with 551 firemen receiving training.

Pennsylvania. Edgar A. Spotz, Adviser, Fire Service Training, Public Service Institute, states that 6,529 fire fire fighters registered for training during the past year. This included 2,411 who registered for Basic and Advanced Fire Fighting Courses, of whom 1,819 graduated. The 13th Annual Pennsylvania Fire School held at Lewiston had a total attendance of 769. Thirteen Regional and County Fire Schools were held with 3,349 men participating.

Saskatchewan: A report from R. A. W. Switzer, Fire Commissioner, Regina, Saskatchewan, states that 12 volunteer firemen's training schools were conducted during the past year at which 264 fire fighters were given instruction in fire fighting and fire prevention. In addition, Auxiliary Firemen Training Schools are currently being held for high school students. Approximately 250 students have been instructed in courses of 18 hours duration at 5 schools.

South Carolina. Although no statewide firemen's training is currently being conducted in South Carolina, Chief A. McC. Marsh of the Columbia, South Carolina Fire Department reports that active training sessions are being conducted at the Columbia Fire School. A total of 96 officers and firemen participated in a 15-unit course and each received 26 hours of instruction. Instructing officers of the fire fighting units attended the Florida State Fire College for instructor courses. Ten firemen completed the standard first-aid course of 18 hours and 78 officers and firemen completed the advance first-aid courses of 12 hours each.

South Dakota: Robert W. Hanigan, Secretary, South Dakota Firemen's Association reports that the 23rd Annual State Fire School had an attendance of 527 fire fighters representing 78 towns. Regional schools were conducted in 8 cities with approximately 800 fire fighters from 152 towns attending. Increased interest throughout the state indicates the need for a continual expansion of the program, according to the report.

Tennessee. A report from Homer S. Elkins, Instructor of Fire Service Training of the State Department of Vocational Education, states that a total of 514 firemen received itinerant instruction during the past year. The 8th Annual Tennessee State Fire Service School, held on the campus of the Middle Tennessee State College at Murfreesboro, had a total attendance of 213. This included 52 firemen from industrial plant brigades. Of the group 111 received certificates for completing the training course.

Texas. Colonel H. R. Brayton, Director of the Firemen's Training School, College Station, Texas (member NFPA Committee on Firemen's Training) reports that a record number of 678 men attended the 23rd Annual Firemen's Training School in August. These reported from city departments, industries and the armed forces in Texas and 21 other states; the District of Columbia; Santiago, Chile; New Delhi, India; and the Panama Canal Zone. Of the enrolled firemen 759 were registered student firemen and fire marshals; 90 were instructors; and the rest were visitors.

Of the total of 5,004 firemen throughout Texas received instruction during the year, 2,668 men received basic training; 1,230 men received a 15-hour course in Fire Marshal Training; 60 officers received instruction in courses of 15–30 hours' duration; 255 men received special training in local hazards and plant protection, and 113 men received special fire department instructors' training.

Utah. The 8th Annual Firemen's Training School, sponsored by the Salt Lake City Fire Department, had an attendance of 386, according to a report by D. E. White, Assistant Chief in Charge of the Training Division. Fire Fighters attending represented 27 municipal fire departments, 4 military establishments, and 14 industrial brigades. An additional 687 firemen participated in Regional Training of twelve 3-day courses. This program is under the joint direction of the Utah State Firemen's Association, Assistant Chief Al Thompson of the Salt Lake City Fire Department, and the Utah State Board for Vocational Education, represented by Von H. Robertson, State Director for Trade and Industrial Education.

Vermont. Chief Donald J. Kelley of the Burlington Fire Department reports that four fire schools of one-day duration were operated by the Vermont State Firefighters' Association. In addition, Addison and Chittenden Counties operated special schools for fire fighters, with an average attendance of 125. The Bureau of Civil Defense is preparing a program for travelling instructors to give 20-hour training courses to all volunteer fire departments.

Virginia: Harold I. Baumes, Executive Secretary, League of Municipalities, and Consultant, Public Service Training, reports that the Annual Virginia State Fire College had an attendance of 106 fire fighters. The school is directed by Fire Marshal Clay A. Easterly, of Martinsville, former State Fire Instructor, with the assistance of Linscott Ballentine, Assistant State Supervisor of Trade and Industrial Education. A change in itinerant instructors during the year caused a temporary disruption of the itinerant fire training program for several months. During the remainder of the year 11 local fire schools were held with a total of 281 fire fighters participating. A 2-day institute held at Luray for fire chiefs and their supervisory officers had a total attendance of 110.

Washington. Mrs. Emma L. Ethier, Secretary of the Washington State Firemen's Association and the Washington State Association of Fire Chiefs, reports that 1,589 firemen participated in training sessions during the past year. A total of 473 school sessions were conducted and 149 other training sessions were held throughout the state. Chairman J. R. Cook of the Washington State Fire School at Seattle traveled throughout the state to give itinerant instruction. The State Board for Vocational Education now has a new office in the Edison Technical School in Seattle with a special classroom for conducting firemen's training.

West Virginia. The 21st West Virginia State Fire School had a registration of 165 firemen, 16 of whom completed an intensive 12-hour instructor training course, according to a report from R. E. Hanna, Jr., of the Fire Service Extension School. In addition, 300 firemen in 25 organized fire departments completed a fire service extension course of 58 class hours' duration.

Wisconsin. H. C. Thayer, State Board of Vocational and Adult Education, reports that 278 firemen received training during the past year.

Techniques of Artificial Respiration

By William D. Claudy, M.D.

Board of Police and Fire Surgeons, Washington, D. C.

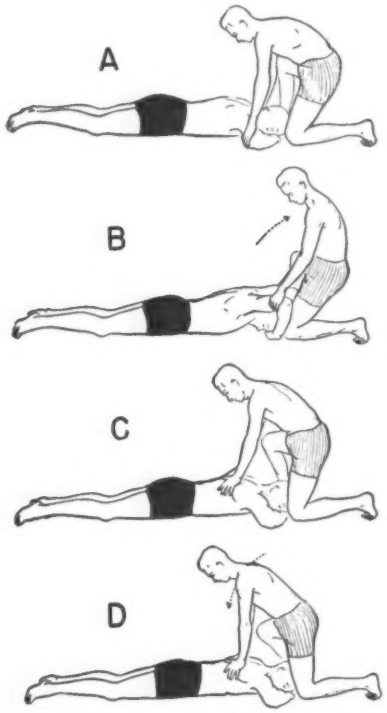
Part II of an article begun in the October, 1952 FIREMEN.

Techniques for Artificial Respiration

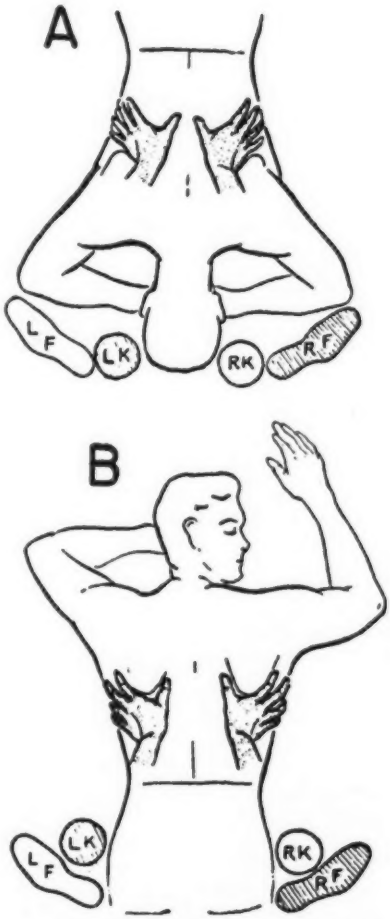
THE techniques of the various various methods follow:

1. ARM-LIFT BACK-PRESSURE METHOD (Holger-Nielsen) — The subject is placed prone, elbows bent, arms overhead with one hand upon the other. The cheek is placed on the hand, the face turned slightly to one side. The operator kneels on one knee at the head of the subject and puts the foot of the opposite leg near the elbow. He places his hands on the subject's back, in such a way that the thumbs just touch, the heels of the hands being just below a line running between the armpits. He rocks slowly forward, elbows straight, until his arms are approximately vertical, exerting steady pressure upon the chest. He then commences to rock backward slowly and slides his hands to the subject's arms just above the elbows. He raises the arms until resistance and tension are felt at the subject's shoulders. Then he drops the arms. This completes a full cycle. The cycles are repeated 12 times per minute, the expansion and compression phases being of equal length, the release periods being of minimum duration. A standard technique for administering the method is being prepared by a committee representing many organizations.

2. HIP-LIFT BACK-PRESSURE METHOD (Schaffer-Emerson-Ivy) — The subject is placed in the prone position with the face turned to the side and resting on the back of one hand. The operator kneels on either knee at the level of the subject's hip and straddles the subject, placing his other foot near the opposite hip. He places his hands beneath the subject's hips (at the bony pelvis, not at the waist) and lifts upward four to six inches, keeping his arms straight. The hips are then replaced and the hands moved to the mid-back at the lower tips of the shoulder blades. With the fingers spread and the thumbs close to the spine, the operator rocks forward and exerts moderate pressure until he meets firm resistance. The complete cycle is repeated 10 to 12 times per minute. When the hips are lifted, the abdominal organs sag downward toward the ground resulting in an intra-abdominal negativity. The diaphragm is drawn downward by this negativity as well as by its ligamentous attachments to the viscera. This downward movement of the diaphragm results in active inspiration. Expiration is active with back-pressure.

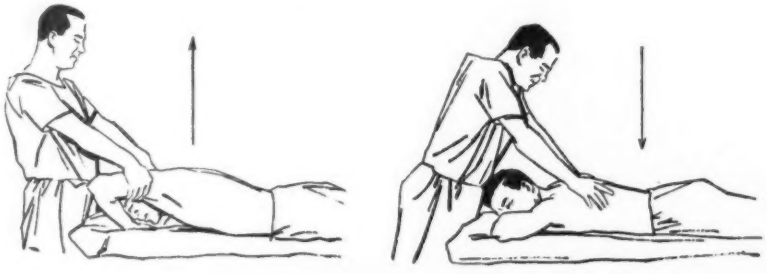


Arm-lift back-pressure method of manual artificial respiration (after Holger-Nielsen). A, placing hands for arm lift. B, arm lift. C, placing hands for pack pressure. D, back pressure.

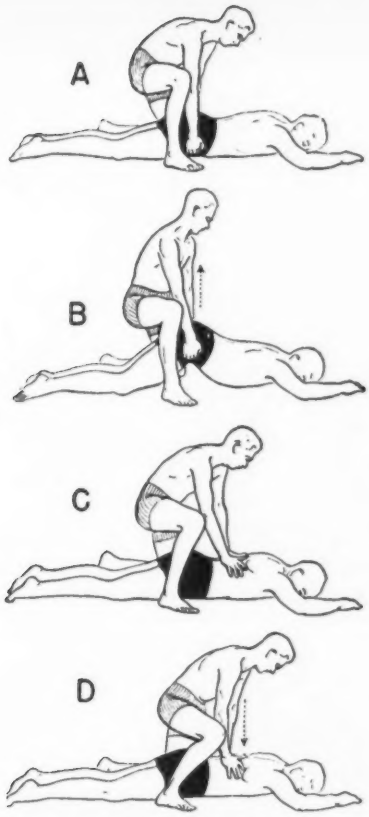


A, placement of hands and feet for arm-lift back-pressure method. B, placement of hands and feet for hip-lift back-pressure method.

LK, left knee; RK, right knee; LF, left knee; RK, right knee; LF, left foot; RF, right foot.



Arm-lift back-pressure (Nielsen) method being applied on bed, table or litter.

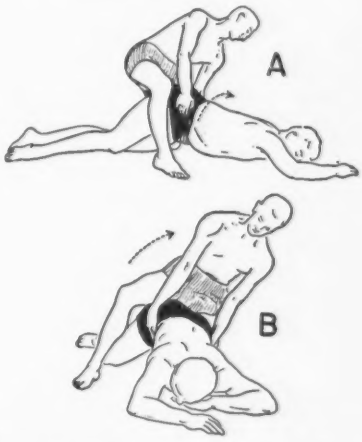


Hip-lift back-pressure method of manual artificial respiration. A, placing hands for hip lift. B, hip lift. C, placing hands for back pressure. D, back pressure.

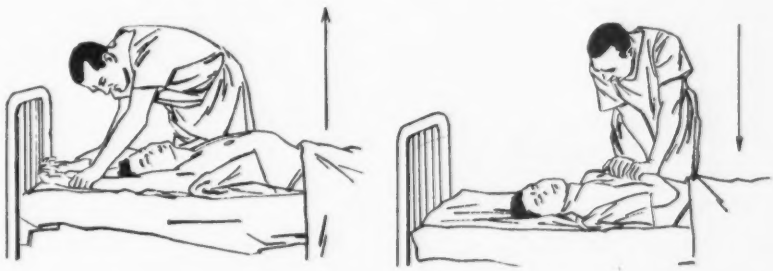
3. HIP-ROLL BACK-PRESSURE METHOD (Gordon) — The subject is placed in the prone position and the operator kneels at the level of the hips as for the hip-lift back-pressure method. He places his hands beneath the hips at the level of the bony pelvis. The operator then leans his body toward the side on which he is kneeling, keeping his arms straight and rolling the victim up onto his knee or thigh, so that both hips are elevated from the ground. The victim's hips are rolled to an angle of about 45 degrees. The hips are then replaced on the ground and the hands moved to the mid-back (at the lower tip of the shoulder blades). With the fingers spread and the thumbs close to the spine, the operator then rocks forward and exerts moderate pressure until firm resistance is met. The complete cycle is repeated 10 to 12 times per minute. Since both hips are, in effect, raised from the ground, active inspiration occurs by a mechanism similar to the hip-lift back-pressure method.

Hip-lift back-pressure method applied by two operators on patient prone in bed, or on table. Hand towel under hips helps to lift. Be careful not to place towel across abdomen.

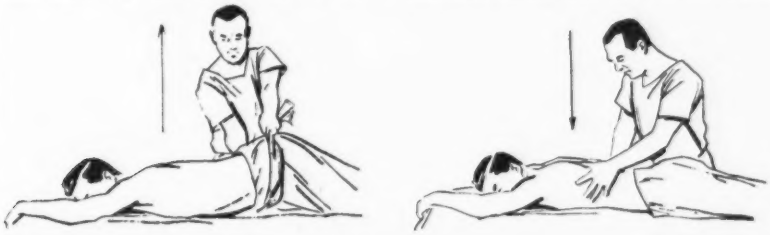
4. ARM-LIFT CHEST-PRESSURE METHOD (Silvester) — The operator kneels on one or both knees at the head of the supine subject. He grasps the arms just above the wrists and draws them first upward and then above the subject's head until they are parallel with the body and touching the ground. They are then replaced on the chest, the operator rocks forward and exerts moderate pressure almost vertically downward until firm resistance is met. Ten to 12 complete cycles are performed each minute. Diligence must be exercised to assure an unobstructed airway with the use of the supine position in this method. Also the arms must be drawn as far above the head as possible in order to assure an adequate inspiratory phase. Active inspiration results with the arm-lift due to chest enlargement from tension on the chest muscle. Expiration is active from the chest-pressure.



Hip-roll back-pressure method of manual artificial respiration. A, side view of hip roll. B, front view of hip roll.



Arm-lift chest-pressure (Silvester) method applied to supine patient in bed. Pillow under mid-back helps extend head and prevent respiratory obstruction.



Hip-roll back-pressure method applied on patient prone in bed or on table. Towel used to roll patient onto operator's fist.

(The concluding portion of this article will appear in a subsequent issue of FIREMEN. *Readers who missed preceding chapter may obtain October* FIREMEN *from NFPA Executive Office.* — Ed.)

Power for Pumps and Pumpers

by Nils G. Bjorck, Sales Engineer, Fire Apparatus, Ward-LaFrance Truck Corporation, Elmira, New York

From a talk delivered at the 28th Illinois Fire College, June 1952

Definition of Power

IN order to make ourselves as clear as possible we must have a common understanding of terms.

"Power" means a certain amount of work to be done in a fixed time. Time is the all-important implication in the definition of the word "power" as applied to engineering matters, and we can hardly deny that our subject is of that category.

Let's examine further the idea of "power" and the "time" element. Efforts of accomplishment with no time element expended are known as *work* efforts. An effort of accomplishment with a time element involved is *power*. Be sure to grasp that a job to be done in a given time involves the concept of "power."

For example, you may associate size with "power." You know that a ¼ H.P. electric motor such as you may use in the pursuit of your basement hobby simply is not as big as a ½ H.P. or 1 H.P. motor if all are of the same speed. If you have not paid any particular attention to the matter of size, you surely have noticed a difference in price.

A ¼ H.P. motor is cheaper because there is less material than in the higher powered motors. The same thing may be said, in general, to apply to gasoline engines used in pumpers. The size and the price goes up with higher powered prime movers because they must furnish more work in a given time, which, by the way, is usually reckoned in minutes.

Power can be measured by the work done in one minute. A 100 H.P. engine has to be capable of the work of 100 horses in one minute's time. A 200 H.P. engine has to deliver 200 H.P. in the same unit of time. If, however, you allowed two minutes for the 200 H.P. engine to produce 200 horsepower, you could have gotten along with the smaller engine because really your power demand was only 100 H.P. for each minute.

The term horsepower means, therefore, work done by an equivalent number of horses in one minute's time. There are other units of power measurements, to be sure, but we are primarily interested at this time in horsepower. The only other unit you may encounter is "foot-pounds" per minute. There are 33,000 foot-pounds in one horsepower.

Now, if you cut the time, you have a reverse condition. If you must do the work of 100 horses in one-half minute you will need a power unit that can do 200 H.P. for a whole minute or if a 200 horsepower must be produced in ½ minute you must have a unit able to deliver 400 horsepower in a full minute.

This need of greater power to do a job in less time and the relationship or power to time is all important particularly to those who may be required to sit on a committee formed for writing or examination of fire pumper specifications.

Engine Determination

IT IS a common fallacy that the pump determines the engine size of a given pumper. This could possibly be true in some very special jobs, but as a rule it is a wrong opinion. The engine size in a fire engine should be determined by the road performance requirement of the apparatus. This is intimately tied up with the total weight of the vehicle and is in most cases the deciding factor.

In order again not to burden you with technical data we wish to resort to a common illustration of daily occurrence in any territory containing grades, equally true in level territories, but under different conditions. An examination of trade journals listing motor trucks, their intended over-all weights, and horsepower available from engines furnished, will reveal a not uncommon tractor-trailer combination of 25,000 lbs. gross weight having as little as 100 H.P. engines in the tractors. Dividing the weight by the H.P. we come up with 250 lbs. weight to each horsepower. The road performance obtainable with such weight to H.P. ratio is something that is daily experienced in a territory of gradients or hills. You may have driven behind such a combination and moved slowly eating the smoke and fumes until an opportunity allowed you to pass.

Perhaps you had no more power in the engine of your car than the truck, or let us assume 100 H.P. However, you could pass in a couple of seconds and get in the clear, because you had much less work to do with the same or more power.

Your passenger car is a pigmy compared with the truck when it comes to weight. An average car with 100 H.P. engine weighs approximately 3000 lbs. or has a weight to H.P. ratio of 30 to 1. This is only ⅛ the weight of the truck we mentioned.

Of course, we would like to have the ability of the passenger car in a fire truck since time is of the essence, but that would mean engines of 600 horsepower in fire apparatus. In addition, transmissions, clutches and drives now available would need to be redesigned due to increased requirements.

What is the proper "weight-to-horsepower" ratio in a good fire truck? A heavy duty 750 or 1000 gpm pumper will run to about 20,000 lbs. gross weight, including load and be equipped with a 240 H.P. engine. The best ratio will be 83 lbs. to the H.P. and this will unconditionally meet all the NBFU* or NFPA specified requirements of minimum performance with plenty to spare. These are, as you know, as follows:

	NFPA	*NFBU**
a.	From standing start to 15 mph in 200 ft. on an 8% grade	same
b.	20% grade forward or reverse	same
c.	40 mph average with not over 55 mph top speed	20 mph average with not over 35 mph top speed.
d.	Accelerate from std. start to 35 mph in thirty-five seconds	None

* NBFU has since adopted the same specifications as NFPA for Motor Fire Apparatus — Ed.

Since there is likely to be a difference in opinion as to desirable characteristics due to topographical conditions, personal experience, etc., there is no fixed line of demarcation as to weight to H.P. ratio. Such can be established from actual operation within any one department and then a standard insisted upon.

It is to be noted we have now covered three conditions. A passenger car with 30 pounds weight per H.P., or better, fire apparatus 83 lbs., and commercial tractor-trailer combination 250 lbs. weight per H.P. Note, fire apparatus is about in the middle with ⅓ of the ratio of truck combination, but about three times that of the passenger car.

Tests

WHEN new fire apparatus is delivered it is customary that an underwriter's approval be secured by actual tests or study of data obtained and observed by the purchaser.

Only a few cities have standardized on test courses containing the elements required for road tests and then usually on their own initiative. To the best of my knowledge, the underwriters seldom test fire apparatus for road performance compliance.

Of course, it may be argued that the specified grades of 8% and 20% are not available for testing.

Since there is more than one way to accomplish most anything desired we can dispense with grades entirely and substitute time, speed, and distance readings on level ground, which may be interpreted into gradient readings. All that is required is a measured course, a stop watch, or speedometer on the vehicle and a means of marking the ground without delay when a desired speed is attained.

Stop watches and 100 ft. tape measures are very common, obtainable at low costs or borrowed for the purpose, the former from a watchmaker, the latter from any surveyor. The speedometer is on the truck or at least should be. The marking device can be a small porous shipping sack capable of holding a couple of handfulls of powdered chalk hurled to the ground vertically by an observer sitting alongside the driver and reading the speedometer. A better way would be rigging a shot gun with a chalk-charged shell and a pullstring muzzle, a foot or two from the ground.* This to cut the human time lag and more accurately determine the spot location when a predetermined speed is reached. The testing is for a more scientific determination of desired results, but you can be very much assured that if you provide the aforementioned 83 lbs. to each H.P. of engine, you will have outstanding results that will meet all codes.

Underpowered apparatus is not found frequently in the large cities. The advent of the rural fire fighter has precipitated the underpower problem. Sparse populations may have less municipal income and fire apparatus may be overloaded due to the need for carrying more water.

It is not out of order to say that it's better to get to a fire with a moderate amount of water than too late with much. It is also understandable that rural areas in order to keep costs down will cater to mass production chassis which though adequate for pumping seldom allow the weight to H.P. ratio recommended for good fire service. If you can not spend the money for the job with an adequate engine to do the job such as recommended, reconsider the weight and keep it down. A slow response to a fire is the same as a delayed alarm.

Set yourself, therefore, a goal of a weight to H.P. ratio of not over 100 lbs. to each H.P. which will make a 100 H.P. engine good for an apparatus not over 10,000 lbs., a 200 H.P. for a 20,000 lb., etc., and you will not need worry about the result. The manufacturer should be required to estimate the weight of the finished equipment, loaded, and then be subject to adherence thereto.

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* Some police services, automobile associations, etc., have such equipment. — Ed.

DATA FOR EQUIVALENT GRADIENT TESTS IN FORM OF ACCELERATIONS ON LEVEL GROUND

(Readings to be taken on Level Course)

	Miles Per Hour	Time Seconds	Distance Measured
1.	0–15	—	—
2.	"	—	—
3.	"	—	—
4.	"	—	—

Formulae: $\frac{752}{S} = G.$

Where S = Distance in feet from starting point to location where 15 MPH was reached. G = Gradient ability, which in % must, on a level test, be at least 11.75

Of the 11.75 required for G. on the level 3.75 is that for accelerating ability and 8 for the hill required. If your value for G is over 11.75, subtract 3.75 from the result and the remainder is the grade on which you can accelerate from 0–15 MPH in 200 ft.

In order to meet the 8% gradient and 15 MPH in 200 ft. the vehicle tested must accelerate on the level from 0–15 MPH in $\frac{752}{11.75}$ or 64 feet.

If time element is desired as a basis of checking G, the formulae becomes $\frac{68.4}{T} = G.$ Where T is time in seconds. G = Same as above.

In other words, if you can reach 15 MPH in 5.808 seconds you have the minimum ability required of 11.76 gradient. Thus we have the new and more practical values of ability requirement as equivalent of gradient requirements, namely, on a level road accelerate from a standing start to 15 miles per hour in 64 ft. or do the same job in 5.8 seconds. Also we have given the simpler expressions: $\frac{752}{S} = G$ and $\frac{68.31}{T} = G$ so that from time or distance measurements of 5.8 seconds and 64 ft. you can check whether a fire truck is up to par or how much better it is than the minimum requirements, all with minimum required tests and calculations on a level stretch of road.

Industrial Fire Protection

Safe Practices in Grain Storage

HAZARDS that accompany storage and handling of grain demand alertness to proper fire protection practices. The frequency of spontaneous ignition and dust explosions in buildings containing grain emphasizes the need for caution when a dangerous situation is indicated in such occupancies. If fire starts or is suspected even the improper use of a hose stream may throw the dust into suspension and lead to a disastrous explosion.

Reports recently submitted to the NFPA Fire Record Department by George S. Jamison and L. A. Allen, Fire Protection Engineers, Cooperative G.L.F. Holding Corporation, Ithaca, New York, explain how two incidents of spontaneous ignition in brewers grain were handled.

IN THE first instance, an employee noticed an obnoxious odor emanating from the top of a grain bin. When he inserted a thermometer (maximum possible reading 130 degrees Fahrenheit) into the grain, excessive heat caused it to break. The fire department was called immediately and preparations were made for flooding the bin. Fire fighters and employees working in alternate ten-minute shifts used a fog nozzle to distribute the water evenly on the contents. Temperature of the water at the nozzle was about 45 degrees. After about two hours of application water began to emerge from the sides and bottom of the bin at temperatures of 130 to 140 degrees. Flooding was continued for three more hours until the temperature was lowered to 70 degrees.

When the bottom of the bin was finally opened pressure hosing was needed to loosen the grain. Large amounts of charred grain were flushed out, some appearing very dry and some still too hot for handling. After the bin was emptied it was noted that charring had occurred on the inside for the full depth of one corner and in a dozen places of one adjacent side.

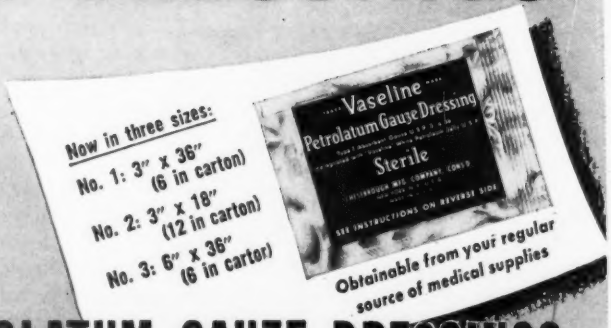
The other incident reported concerned a bin holding 25 tons of brewers grain. Again the tell-tale odor was noted by an employee and a volunteer fire department was called. At first it was believed that the grain was only hot and could be cooled by merely transferring it to another bin. However as the grain was being drawn it became hotter and the fire chief decided to flood the bin. This was done successfully and by proper flushing nearly 5 tons of the grain was saved.

THE September issue of the *G.L.F. Week*, published by the Cooperative G.L.F. Holding Corporation, makes the following recommendations to employees:

DEPENDABLE DRESSINGS

for FIRST AID, for EMERGENCY
for DISASTER, for DEFENSE

With a distinguished record of use by the medical services of the Armed Forces, by other governmental agencies, by hospitals, by emergency and disaster units, by industrial clinics and first-aid stations . . .



Now in three sizes:
No. 1: 3" x 36" (6 in carton)
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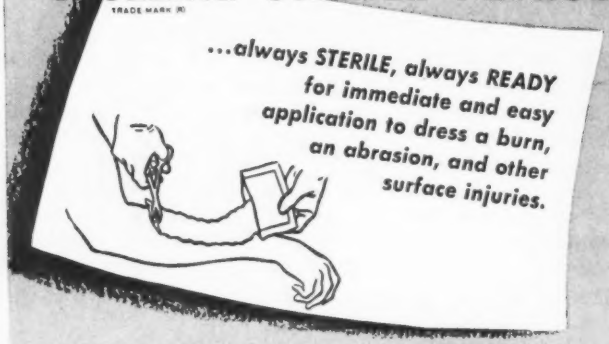
Obtainable from your regular source of medical supplies

VASELINE STERILE PETROLATUM GAUZE DRESSINGS



...always STERILE, always READY for immediate and easy application to dress a burn, an abrasion, and other surface injuries.

have been adopted by surgeons as standard procedure, by nurses as preferred matériel, by professionally-trained aid personnel as the compact, ready-made, ready-to-apply dressing of their choice.

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1. Maintain good housekeeping around bins at all times. Both human life and mills have been destroyed this year as a result of grain explosions.

2. Moisture content of these grains should be between seven and ten percent.

3. In hot, humid weather grains should be moved every two weeks, regardless of temperature.

4. A bin thermometer should be provided which can be dropped into the bottom of the bin from the top. Whenever the temperature is found to be between 100 and 135 degrees Fahrenheit, it is suggested that the grain be reworked or bagged. If the temperature has reached 160 degrees, it is a good indication that the grain is in dangerous condition and removal in small quantities is recommended. Before attempting removal, call the fire department and have the top of the bin wet down with a fine spray, then stand by with a fog nozzle and wet down the grain as it is removed from the bin.

5. It has been learned that it is good practice to store these grains in the outside bins. Then, if it becomes necessary to flood the bins, less water damage may be expected. It is also suggested that wherever possible the bins used for storing these grains be metal lined.

THE table "Fires and Fire Losses Classified, 1952," appearing in the October, 1952, NFPA QUARTERLY, discloses that an estimated 2,800 fires occurred in grain mills and elevators in the United States during the past year. Estimated losses were $2,200,000.

National Fire Codes, Volume II, "Prevention of Dust Explosions," shows that 191 grain dust explosions causing 74 injuries or fatalities have been reported to the NFPA.

In this same volume are three pertinent standards titled "Terminal Grain Elevators," "Suction and Venting in Grain Elevators," and "Country Grain Elevators." Readers will find that careful use of hose streams in these occupancies is recommended. Combination nozzles on 1½-in. hose capable of fog and straight stream patterns should be used.

The Standards also recommend that if fire does occur in a bin, no attempt to clear the bin should be made until it is definitely known that the fire is extinguished.

Copies of Volume II, "Prevention of Dust Explosions," may be obtained from the NFPA Executive Office, 60 Batterymarch Street, Boston 10, Massachusetts. Price is $3.00 per copy.

CHIEF Rudolph H. Swanson

of Jamestown, New York, *former President of the International Association of Fire Chiefs,* who last year made a European tour, studying fire fighting methods used abroad, issues this warning:

"Prepare *now* for any emergency. Purchase all of the fire equipment you will need. Do not delay. Being fully equipped and ready can save thousands of lives and millions in property damage."

ORDER YOUR INDIAN FIRE PUMPS NOW!

● Everyone connected with fire prevention should heed the warning of Chief Swanson. **INDIAN FIRE PUMPS** will play a big part in your fire fighting activities. Be sure you have an ample supply for "any emergency."

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One playpipe enables you to put out flammable liquid fires, bad spill and crash fires. Multiplies fire-fighting capacity of a limited water supply.

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Pyrene® AIR FOAM PLAYPIPE

A Pyrene* Air Foam Playpipe multiplies the efficiency of every pumper. Just ask any of the thousands of fire departments now using them! For each gallon of Pyrene Air Foam Compound and 20 gallons of water, the playpipe produces 350 gallons of fast-acting foam. It's *sure death* to both flammable liquid fires and those in ordinary combustibles. May be used with booster tank and ¾" to 2½" hose.

$63 is all it costs to equip a truck with a Pyrene Playpipe, pick-up tube, hose adapter, and 5 gallons of Pyrene Air Foam Compound. You can't afford *not* to do it! Write for name of nearest Pyrene Air Foam jobber.

*T.M. Reg. U.S. Pat. Off.

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Affiliated with C-O-Two Fire Equipment Co.

Have You Tried This?

CHIEF Joseph S. Floyd, Ridgefield Park Fire Department (member of NFPA), recently carried out an interesting fire prevention measure in his community. The department, which is entirely volunteer consisting of 6 companies with 120 men, has distributed 300 copies of the "Reader's Digest" Guide on Fire Safety recently, prepared in cooperation with the NFPA. Distribution was made to householders in the community with the request that the booklet be passed on to other friends and neighbors. As previously reported, copies of the Public Service Guide to Fire Protection can be obtained from the Reprint Editor of the "Reader's Digest" at Pleasantville, New York, at a cost of 25c per single copy and special prices on quantity orders.

Why not try distributing some copies in your community? The Guide contains valuable information that will help to make home owners more conscious of the need for fire safe practices.

Rescue Squads Should Move Patients

ACCORDING to a report in the *Washington Post* ambulance and rescue squads should transport patients to a hospital and not try to function as therapeutic agencies. Authority for this statement is Dr. Charles I. Warfield, chairman of the public relations committee of the Montgomery County, Maryland, Medical Society.

Dr. Warfield contends that very few cases exist in which rapid movement of the patient to the emergency room of a hospital would be injurious.

"Even if a doctor accompanies the ambulance, it is rare that he can do anything but order removal to a hospital," he stated. "Prompt transportation to the hospital means that proper equipment and other facilities will be available and the patient will be better off. There is no reason that oxygen or even blood plasma cannot be administered in an ambulance."

Dr. Warfield rode the Emergency Hospital ambulance in Washington for a year as an interne. He plans to meet with rescue squad officials in Montgomery County and urge them to move patients instead of waiting for a doctor.

New CUSTOM DIMENSIONS

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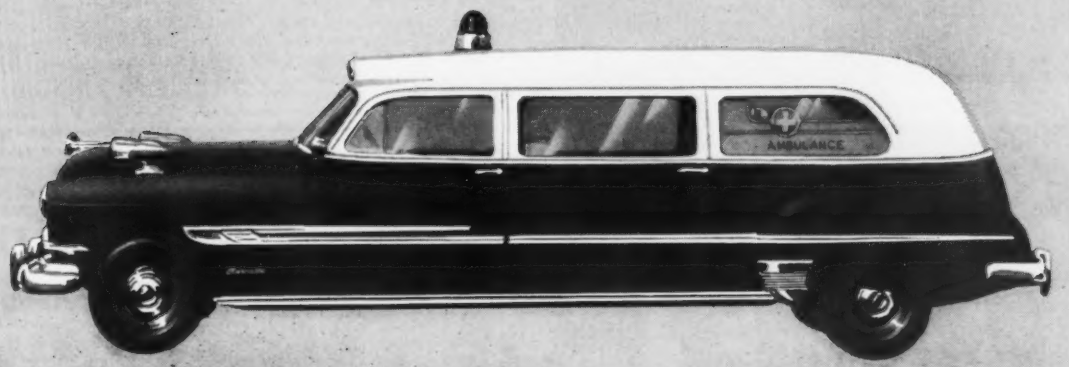
★ *New Thinking Is Swinging*

Leadership to Barnette



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DOOR SWINGS TO CURB FOR SAFETY
SPARE TIRE IS BEHIND DRIVER'S SEAT
MORE GLEAMING CHROME INSIDE AND OUT

THE BARNETTE "800" AMBULANCE —with its new custom dimensions and features, assures greater safety and service, especially for heart cases. Again BARNETTE leads with custom-made quality at assembly line cost.

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FIRES IN THE NEWS

American Moulding Products Company, Philadelphia, Pa., August 27. (United Press Photo.) Fire started in this unsprinklered 4-story brick building containing sulphite pulp products and spread rapidly, involving 2 adjacent buildings. Delayed alarm and inadequate water system hindered fire fighters from 20 engine and 5 ladder companies and 2 fire boats. Loss was estimated at $250,000.

Kentucky State Fair Grounds, Louisville, Ky., September 11. (Wide World Photo.) A spectator apparently dropped a cigarette in the stands during the State Fair and fire started in an accumulation of peanut shells, pop corn and other trash. It spread rapidly through the south end of the grandstand to the upper sections and roof. Fire fighters from 10 engine, 7 hose and 3 ladder companies responded and used 2½-in. lines, a ladder pipe, and a deck pipe to confine the fire. Loss was estimated at $213,000.

(At left) Cabin, Cruiser, Freeport, N. Y., August 24. (United Press Photo.) Fire fighters had to pursue this drifting 45-foot cabin cruiser after an explosion started a fire before the owner could moor in the boatyard. Two men aboard the craft suffered burns but managed to escape and swim ashore. Gasoline had leaked from the carburetor, filling the bilge with fumes, which ignited when the engine back fired. Fire fighters used 10 cans of foam powder to extinguish the flames but the boat was a total loss.

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Fire Hose Station©

FOR SMALL STRUCTURES

Here, in one small (14"x12½" x4") steel cabinet is foolproof protection against most fires in up to 12,000 square feet.

Cabinet may be wall-mounted or recessed between studs, standard valve connects to regular water supply. No maintenance.

Instant-release rack holds up to 75-feet of ¾" linen hose, with adjustable nozzle locked-on and "faucet" valve.

Choice of four hose-lengths and accessories, priced from $31. Submitted for UL approval. Hundreds installed.

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Don't Take A Chance!

A Child's Life is Precious

Open Flame Candles Are Dangerous

Use "Tops" Electric Safety Candle It looks Like A Real Candle Burning

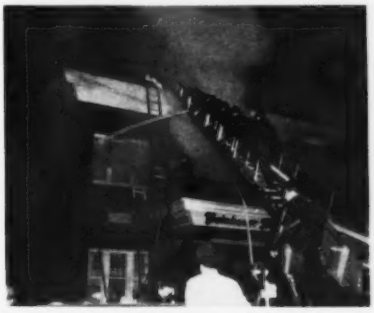
Made of Sturdy Aluminum—will last for years. Beautiful wax-like finish and special flame shaped bulb gives appearance of real candle. Available in White, Red, Orange, Yellow, Green, Blue, Indigo and Violet Candles. Bulbs in all above colors plus Natural Flame Color.

$1.25 each with Flame Bulb. $1.30 each with Colored Bulb.

Does not include Batteries — Batteries 9c each.
Candles require 2 Batteries

Har-Tee, Inc. Box 3101 Cleveland 17, Ohio

County Fairground, Tulare, Calif., August 13. (*Tulare Advance Register Photo.*) A pavilion building and several adjacent structures used for exhibits were destroyed by this fire that is presumed to have started in high voltage electrical panels. The Tulare Volunteer Fire Department was assisted by units from nearby Visalia, Pixley, Tipton, and Tulare Airport. Fire burned rapidly through the wood frame 30-year old buildings but fire fighters managed to protect other close exposures. Loss was estimated at $50,000.



L. Beinhauer & Son Mortuary, Pittsburgh, Pa., September 3. Veteran fire fighters of the Pittsburgh Fire Department stated that they had never encountered anything like this smoky fire which presumably started in the wiring of the crematory. Embalming fluid and refrigerants increased the smoky conditions and 8 fire fighters suffered injury. Fire was confined to the basement of the 2-story brick building as fire fighters fought fire and covered exposures on three sides and ventilated on the fourth. Five coffins with bodies were removed from the second floor during the fire. Loss was estimated at $75,000.

Hotel Biscayne, Ocean City, N. J., September 9. (*Senior Studios Photo.*) Fire started near an accumulation of trash in the rear of this 5-story wood frame hotel and gained considerable headway before discovery. An automatic detector system and the three alternate means of exit required by the hotel safety law played an important part in the rapid evacuation of guests from 72 rooms of the building. Lack of fire stops aided the spread of fire. Ocean City fire fighters used 1½-in. lines and held damage to about 50 percent of the building. Loss was estimated at $90,000.

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DEPENDABLE FIRE PUMPS

WATEROUS Centrifugal Fire Pumps are immune to the bugaboos that haunt pumps of inferior construction and design. Impeller shafts on WATEROUS pumps are supported at both ends by ball bearings running in oil... vibrationless operation is assured—wet or dry. Fewer hydraulic joints—less leakage. Gear train is of hardened steel and supported by ball bearings —long life. Liberal size gears and positive lubrication—low temperatures.

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SINCE 1836

"The Fireman and Electrical Equipment"

IN 1942, the State of Michigan Department of Public Instruction, through its Office of Vocational Education and with the cooperation of local utility companies, prepared a pamphlet with the above title, designed to give firemen a guide to self-protection when fighting fires involving electrical equipment. The pamphlet has been widely used in firemen's training classes, not only in Michigan but elsewhere. It has just been reprinted with some revisions. It is 6 by 9 inches in size, 64 pages, and is priced at 50 cents for single copies. For quantity purchases 10 and 20 percent discount is allowed for quantities of 100 or 1,000 respectively. Order copies from the University of Michigan Press, Ann Arbor, Michigan.

Revised Massachusetts Law

NFPA Farm Committee member, Howard S. Russell of Waltham, Mass., who serves in the Massachusetts State Legislature, has called attention to the revision of the Massachusetts law, "regulating the dropping, throwing, depositing, or placing certain substances likely to cause a fire," approved April 17, 1952.

The amended law Section 54 of Chapter 148 of the General Laws of Massachusetts, is intended to control throwing of cigarettes or other burning material from vehicles. It reads as follows:

"Whoever drops or throws from any vehicle while the same is upon a public or private way running along or near forest land or open fields, or, except as permitted by law, drops, throws, deposits or otherwise places in or upon forest land, any lighted cigarette, cigar, match, live ashes or other flaming or glowing substance, or any substance or thing which in and of itself is likely to cause a fire, shall be punished by a fine of not more than one hundred dollars or by imprisonment for not more than thirty days."

NFPA Inspection Manual

336 pp. $3.00 per copy

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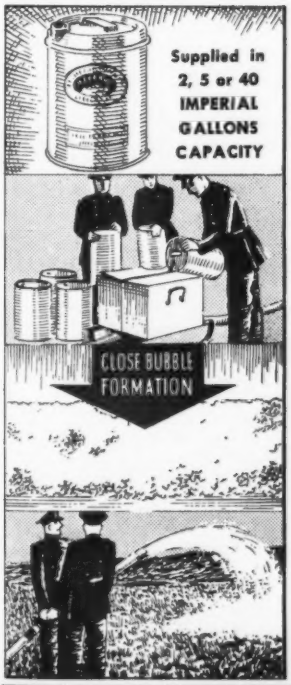
National Fire Protection Association
60 Batterymarch Street, Boston 10, Mass.

Kills Oil & Petrol Fires with SPEED & CERTAINTY



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★ Nicerol can be used in any type of mechanical foam or air foam apparatus. In this case a base injection type in-line inductor is being operated.

★ The secret of Nicerol effectiveness lies in the small bubble formation. It creates a tough, efficient blanket. 3 gallons of Nicerol and 100 gallons of water will produce over 1,100 Imperial gallons of foam.

★ The above gasoline and oil blaze was extinguished in a matter of seconds by a normal mix of Nicerol Foam Compound.

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Standard Ansul models are approved for operation from –40°F. Special low temperature models are approved by Underwriters Laboratories for operation down to –65°F. All Ansul extinguishers provide effective and dependable protection for flammable liquid, gas and electrical fires.

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THE AIR CONDITIONING
FIRE HOSE DRYER

Circul-Air is the patented, electrically operated hose dryer which circulates prewarmed fresh air through coiled wet hose at the rate of 5 to 6 air changes per minute. It's designed to lengthen hose life, improve the appearance and functional design of new fire houses, and to save floor space and hard work. No other drying method is so fast—so economical—so easy to use.

Circul-Air Dryers have passed the Approvals Tests and are listed by the Underwriter's Laboratories, Inc., Chicago and the Canadian Standards Association.

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Ontario Fire Conferences

BEGINNING October 27 a series of one-week Tactical Fire Study Forums are being held in Toronto during October and November. These are under the general direction of the Canadian Federal Department of National Health and Welfare which is responsible for civil defense. Arrangements were made to use the premises and facilities of the Ontario Fire Marshal's office at Toronto for these meetings. Provincial Fire Marshal W. J. Scott and members of his staff are assisting.

The conferences are directed by Major General F. F. Worthington, Federal Civil Defense Coordinator. Tactical problems of fire fighting under conditions of modern warfare will be considered. The conferences will be of considerable importance because the fire experts attending will be asked to make recommendations as to the overall policies for civil defense fire fighting in Canada. Municipal fire chiefs and provincial fire officials have been invited under a schedule which brings together the chiefs from municipalities of about the same size and with similar civil defense fire problems.

Two days of each forum will be devoted to a specific study of the planning and organization necessary for the handling of mass fires after various types of atomic attack. The City of Hamilton, Ontario will function as the "guinea pig" for these studies and provide an actual case so that conclusions may be based on practical rather than theoretical considerations.

CHAMPION Portable Fire Pumpers

Unexcelled for Performance and Stamina

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Suction and discharge connections, straight iron pipe thread standard; special threads at extra charge.

Engineered for Fire Fighting

Model No. 8AE — Weight 171 lbs. Dimensions: Width 19 inches, length 21 inches, height 22 inches.

Pump — Champion Centrifugal. Discharge outlet 2½-inch iron pipe thread. Suction inlet 2½-inch iron pipe thread. Shutoff gate valve on the discharge outlet. Primes automatically.

Engine — 8 Horsepower Briggs and Stratton gasoline engine, 4 cycle, air cooled. Gas tank capacity 1½ gallons. Enough gas to operate the engine under full load for 1¾ to 2 hours.

Check CHAMPION *Performance Before You Buy*

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GALLONS PER MINUTE	GALLONS PER HOUR	TOTAL PUMP PRESSURE, POUNDS
150	9000	58
175	10500	55
200	12000	50
250	15000	40

Trial Test A Champion for 30 Days Before You Buy Any Portable Pumper

If your Department is planning the purchase of a Portable Pumper, you will want to consider our offer to let you try before you buy. You can order a Portable Pumper from us with the understanding that you have the privilege for 30 days (without any expense or obligation to purchase) of making any tests to prove Champion superior performance to yourselves.

If the Champion Centrifugal does not come through every test with flying colors you can ship it back and we'll pay the freight both ways. We welcome competitive tests — test a Champion alongside any other pumper of same capacity. That is, if you can find another manufacturer willing to ship a Portable Pumper on trial.

DARLEY PORTABLES *Meet U.S. Govt. Civilian Defense Specifications*

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Use the Portable Pumper at water sources inaccessible to your truck. With the Portable Pumper operating in tandem with the pump on your truck you can pump through thousands of feet of hose. The Portable Pumper supplies water to the truck pump which boosts the pressure and relays the water to the fire for effective streams.

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when you invest in quick-hitch suits buy the BEST— buy GLOBE!

Before you buy ANY firemen's clothing, see the GLOBE line. We'll let you be the judge of their many practical features including the new Globe Neoprene* Interlinings. You'll find them durable; they'll give you more real lasting wear and protection than any suit on the market. Clip out the corner of this ad and get the facts. Do it now, today.

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Please send me, without obligation, your FREE catalog and samples of materials used in the Globe Suits. Also the name of the Globe Dealer nearest me.

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RANSON, WEST VIRGINIA
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Membership Report

NFPA members are reminded that the Fire Prevention Week Contest, sponsored by the NFPA Fire Prevention and Clean-Up Campaign Committee, closes November 30, 1952. Details and entry blanks may be obtained from Melvin R. Freeman, NFPA Public Relations Manager, 60 Batterymarch Street, Boston 10, Massachusetts.

NFPA Welcomes:

Canal Zone: Chief John R. Larrabee, Fort Gulick.

Illinois: Western Spring Firemen's Association, Western Springs.

Indiana: Attica Volunteer Fire Department, Attica; Mellott Fire Department, Mellott; West Lebanon Fire Department, West Lebanon.

Maryland: Branchville Volunteer Fire Company No. 1, College Park.

Minnesota: Hermantown Volunteer Fire Department, Duluth.

Montana: Havre Fire Department, Havre.

North Carolina: High Point Fire Department, High Point.

North Dakota: Jamestown Fire Department, Jamestown.

Nova Scotia: Lakeside Volunteer Fire Department, Lakeside, Halifax.

Ohio: Craig Beach Volunteer Fire Department, Lake Milton; Paulding Volunteer Firemen's Association, Paulding.

Pennsylvania: Oakmont Volunteer Fire Department, Oakmont; Union Fire Company No. 1, Oxford.

Quebec: Chief Eugene Labrie, Port Alfred.

Rhode Island: Greenville Fire Department, Greenville.

Texas: Frost Volunteer Fire Department, Frost.

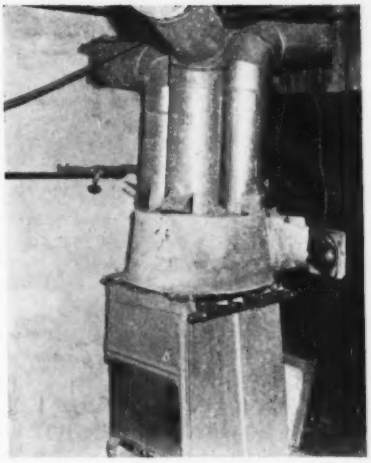
Virginia: Annandale Volunteer Fire Department, Annandale.

Washington: Greenwood Volunteer Fire Department, Seattle.

1953 Fire Department Instructors' Conference

THE Fire Department Instructors' Conference will be held in Memphis, Tennessee, February 24-27, 1953, according to a report from FDIC Chairman Richard E. Vernor, Manager, Fire Prevention Department of the Western Actuarial Bureau, and Chairman, NFPA Board of Directors. Further information on the FDIC will be published when available in a future issue of FIREMEN.

Please Mention FIREMEN when writing to manufacturers



Home-Made "Furnace"

FIRE department members who may consider home inspections a task of only ordinary interest should be encouraged by this photo. It appeared in the July issue of the *Kentucky Fire News*, published by the State Department of Insurance, Louisville, Kentucky.

Captain Omer Cunningham and Fireman L. F. Kincaid of the Lexington Fire Prevention Bureau discovered this arrangement during a routine home inspection tour. The "furnace" consisted of an old-style four-burner gas stove, an inverted wash tub, an electric fan, a few pieces of metal roofing and several sections of furnace pipe.

Inspectors J. E. Kearney and James L. Smith examined the device and found that the fan blew heat and gas fumes directly into the duct system. A small amount of fresh air was admitted through the louvers at the base of each duct.

Needless to report the situation was promptly corrected. The owners of the contraption were given written notice to discontinue the furnace and an order for its removal was issued. (*Lexington Fire Prevention Bureau Photo.*)

●

Correction

AN article on page 15 of the October, 1952, issue of FIREMEN, stated that T. P. Treadwell, Ex-Chief of the Fort Collins, Colorado, Fire Department, formerly was an Assistant Chief of the Denver Fire Department. Chief Collins writes that while he did serve as a fire fighter he was not an Assistant Chief in the Denver Fire Department.

"The Chief says to get in there fast! Get the Scott Air-Paks"

PROTECT LIVES . . . KNOCK FIRES DOWN FASTER

with Scott Air-Pak TRADE MARK BREATHING EQUIPMENT

• When the building's charged with smoke and you've got to get to the source of the fire fast . . . slip on a SCOTT AIR-PAK in seconds and start to breathe that *cool, fresh air.* No matter how hard you work, you get relaxed . comfortable breathing when *your life depends on it.* There's no fogging up of masks to restrict your vision, no worry about making your voice heard by others. You'll feel safer and put those fires out faster, make those rescues quicker, when you're wearing your SCOTT AIR-PAK.

Your Scott Distributor will gladly give you a FREE DEMONSTRATION.

WRITE TODAY for illustrated bulletin 510.

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SAFETY EQUIPMENT DIVISION
SCOTT AVIATION CORP.
236 ERIE STREET LANCASTER, N. Y.
Canada: Safety Supply Co., Toronto — Branches in principal cities
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. . . with the *improved*

FIREWATER,* the chemical penetrant tha *now* gives you:

★ Corrosion no greater than *tap water!*

★ Surface tension of *31 dynes per square centimeter* when diluted 600 to 1!

★ Penetration that actually *sinks* raw cotton (as well as ducks)!

Already recognized as being the most effective, least expensive wetting agent on the market, the *new* FIREWATER is even farther ahead of the field. WRITE TODAY, ON YOUR OFFICIAL LETTERHEAD, FOR FREE SAMPLE AND NAME OF DISTRIBUTOR NEAREST YOU!

* Trade Mark Registered.

THE FIREWATER COMPANY

Number 1 First Street, Los Altos, Calif.

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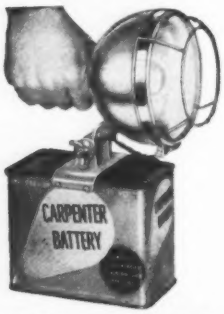


HIGH POWER PORTALITE

The finest dry battery portable light made. Mile range. Powerful searchlight beam for 8 to 10 continuous hours. Instantly ready for any fire. Diameter 6". Size 14" high x 10" x 6". Only 9 pounds.

CARPENTER LEADS THE WORLD IN PORTABLE AND EMERGENCY FLOOD and SEARCHLIGHTS

ALL KINDS OF EMERGENCY AND SPECIAL LIGHTS FOR CARS, PUBLIC UTILITIES AND INDUSTRIES.

Write for Catalog showing many more Emergency Lights.

CARPENTER MFG. COMPANY

BOSTON-45-SOMERVILLE, MASS.

Letters to the NFPA

Query:

For the past few years we have been communicating with several American agencies in the fire apparatus business relative to the needs of this department, believing that all such establishments are the actual manufacturers of the goods subject of our inquiries. However, we have no means whereby we might ascertain whether the company we deal with is the actual manufacturer or merely undertaking the assembly of parts manufactured by different companies into apparatus.

If at all feasible, therefore, may we request that we be furnished information or supplied a list of companies who actually manufacture fire apparatus, not those who merely assemble parts into apparatus.

Your favorable consideration on this request shall be highly appreciated.

Very respectfully,

CIPRIANO CRUZ
Chief, Fire Department,
City of Manila,
Republic of the Philippines

Answer:

This will acknowledge your recent inquiry regarding fire apparatus manufacturers and assemblers. Actually, it is doubtful if any single manufacturer of fire apparatus fabricates all the many component parts of a fire pumper or ladder truck. As you know, there are hundreds of parts of automotive equipment that go into any completed fire truck, and these items are best made by companies that specialize in such things as transmissions, brakes, carburetors, etc. There are also comparatively few manufacturers and assemblers of fire apparatus that make their own pumps because much better and more complete pumping equipment can be obtained by companies specializing in the manufacture of fire pumps.

For example, the Mack Truck Corporation maintains a very extensive fire apparatus division with its own plant, and their equipment is used in many large cities throughout the United States including our own City of Boston. They have their fire apparatus pumps built for them by a concern specializing in the manufacture of fire pumps. This makes it possible to give the fire service the exact type and size of fire pump wanted; whereas if each fire truck manufacturer had to build its own pumps, the number would be very limited.

From the point of view of American experts in municipal fire department equipment, the matter of the assembling or manufacturing of fire apparatus is of relatively less importance than the fact that each assembly should have passed the 12-hour test of the National Board of Fire Underwriters and that each individual piece of fire apparatus should be purchased under adequate specifications such as those published by the National Fire Protection Association in cooperation with the National Board of Fire Underwriters and the International Association of Fire Chiefs. We understand that the National Board of Fire Underwriters has conducted factory tests on some 1500 different models of fire department pumpers. It is indicated that the assemblies in question provide a complete and properly fabricated piece of fire apparatus.

It is, of course, on order for the purchaser to request that the manufacturer or builder of fire apparatus supply a parts-number inventory indicating the various parts used in a given piece of fire apparatus. This will facilitate the obtaining of repair and replacement parts as they may be needed.

I think you will see from the foregoing that there has been a misconception regarding the building of fire apparatus to the effect that some companies manufacture all parts of the apparatus and others merely assemble apparatus. This certainly is not the case as one builder may, for example, make its own ladders but buy the pumps from a pumper manufacturer. Another builder may buy ladders from a ladder manufacturer and make its own pumps. If purchase specifications required that all components be built by the apparatus manufacturer or assembler, there would be little competition, and development of fire equipment would be stunted because few apparatus concerns would have sufficient volume to bring out new models of all component parts regularly. Would it not be better to have a fire truck having say an up-to-date motor built by a motor manufacturing company which makes thousands of motors than a company that may only build a few hundred engines a year and accordingly cannot afford to keep abreast of the latest changes in engine design?

There are quite a number of reliable fire apparatus manufacturers in the United States that should be able to make apparatus entirely satisfactory for your city providing your demands are made clear to them. We call your attention to displays of heavy-duty pumpers that appeared in a recent issue of FIREMEN Magazine indicating some of the manufacturers of this type of equipment.

Very truly yours,

WARREN Y. KIMBALL, *Manager*
Fire Services Department

Dear Sirs:

It has long been the practice of our local fire department to remove leaking refrigerators from the house or apartment to the outer air and leave them for the repairman.

In view of the small quantity of sulphur dioxide in the usual one-family refrigerator, how much hazard is there in leaving them in a well ventilated kitchen with the door to the rest of the house closed tightly?

A stamped self-addressed envelope is enclosed for your expected answer.

Thanking you in advance, I remain

Yours truly,

C. F. R.

Dear Mr. R.:

Acknowledging your letter of September 1, we have no standards which would permit giving an official answer to your inquiry about the procedure in connection with leaking refrigerators, but I am glad to offer my personal comment which I hope may be helpful.

It would seem to me that in any case where the leakage of sulphur dioxide or other noxious refrigerant was sufficient to require calling the fire department it would probably be best to follow the existing practice of removing the refrigerator out of doors. In theory, with a small leak it might be all right to shut the kitchen door and leave the windows open. The trouble, however, is that in the interval between when the fire department leaves and the refrigerator repair man arrives the occupants are very likely to need to use the kitchen and will open the door and close the windows.

Sulphur dioxide is a dangerous gas, even in relatively small quantities. As a matter of fact, a slight leak might conceivably be more dangerous than a major leak because where there is a high concentration of sulphur dioxide the atmosphere is so objectionable that everybody is forced to leave and thus avoid breathing the fumes, whereas with a small quantity of sulphur dioxide in the air people might stay and be exposed to continued breathing of the gas.

Sulphur dioxide gas is not only dangerous to breathe, but in contact with moisture produces a highly corrosive acid that can be quite damaging. Therefore, from the point of view of avoidance of property damage as well as from the point of view of life hazard, it would be desirable to get the refrigerator out of the house.

Very truly yours,

ROBERT S. MOULTON,
Technical Secretary.

"Attacking and Extinguishing Interior Fires"

134 pages 71 illustrations

$3.75 per copy

National Fire Protection Association
60 Batterymarch Street, Boston 10, Mass.

You bet I specify MIDWESTERN Protective Clothing ...my men deserve the BEST!

PROTECTION • COMFORT • SERVICE

There is no substitute for the extra protection, built-in comfort and longer wear you get by specifying Midwestern clothing. In our vast selection of rubber materials you will find the type of fabric exactly suited to your climate and needs. You can count on the softness and flexibility of the high-grade materials used to meet your most exacting requirements for lasting comfort and rugged service.

Due to government requirements for Midwestern Protective Clothing, prompt delivery will be assisted if you place your order early. For complete information, have your Midwestern dealer show you our full line. A letter to the factory will also bring you literature and material samples for your inspection.

MIDWESTERN MFG. CO., Mackinaw, Illinois
Manufacturers of the Famous **MACKINAW Coats**

Fight Brush Fires From Moving Truck with a HALE Type FZZ PORTABLE PUMPING UNIT

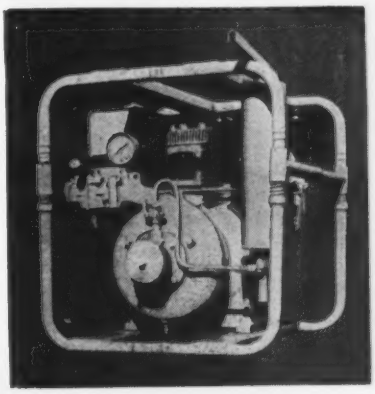
Picture below shows fire-fighter handling stream from a Hale Type FZZ Portable Pumping Unit mounted on a moving truck. An FZZ can be mounted permanently on truck or carried as a portable unit for pumping into or *from* booster tank. This portable arrangement is extremely useful both for fighting brush, field or forest fires while in motion; or pumping from pond, stream or well direct.

An FZZ will supply from draft, 60 U. S. Gallons per minute at 90 lbs. pump pressure and up to 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1½" hose lines using nozzle tips up to ½".

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. Unit is also available mounted on two wheels or on rubber-cushioned steel channels.

Note: Discharge adapter can be supplied for use with 2½" hose.

Write today for new FZZ Folder
Let us know if you want a demonstration



HALE FIRE PUMP COMPANY
Conshohocken, Pa.

● Fire Pumps in All Standard Capacities

Nip Brush Fires in the Bud with a HALE FZZ

SAVE LIVES

FEDERAL

Beacon Ray

is the most DISTINCTIVE, POSITIVE WARNING LIGHT

you can use!

- ***360° VISIBILITY***
- ***2 FLASHING BEAMS***
- ***PROTECTS EVEN WHEN VEHICLE IS PARKED!***

No other light can protect your vehicles like Beacon Ray. It *demands* attention—can't be missed. Write now for Bulletin 351.

FEDERAL ENTERPRISES, Inc.

Formerly Federal Electric Company, Inc

8717 S. State St., Chicago 19, Ill.

Good Rescue Work at Philadelphia Flash Fire

By Lt. William F. Strube, Philadelphia Fire Department

MEMBERS of the Philadelphia, Pa., Fire Department put together good rescue work and effective fire fighting when this fire occurred on September 17. The building involved was an electric motor winding shop. A 100-gallon dip tank containing varnish and solvents was accidentally tipped over and fumes were ignited by nearby baking ovens. Flames spread so rapidly through the 2-story building that 15 employees on the second floor were unable to escape.

Dr. Saverio Brunetti, Chief Fire and Police Surgeon, happened to be passing the building when the fire started. After pulling an alarm box he used his two-way radio to call rescue and police emergency cars.

Engine Co. 13, located two blocks away, arrived in less than a minute and immediately stretched a 2½-in. line with 1¼-in. tip to the rear of the first floor where the fire started. Battalion Chief Edward F. Comerford directed rescue operations until the arrival of Acting Deputy Chief John P. Reihley, who immediately ordered a second alarm.

Deputy Commissioner-Chief of Department George E. Hink responded to the second alarm. All rescues were made and the fire was under control within 20 minutes.

The photos above show the type of work accomplished by fire fighters. (Top left) General view of the fire as companies began "mop up" operations. (Top right) Men worked hose lines into buildings despite withering punishment. Here a hoseman from Engine 27 waits for water at a "hot spot." (Bottom left) Laddermen of Trucks No. 1 and No. 23 carry a badly burned employee to safety.

(Bottom right) Two fire fighters received special commendations from Mayor Joseph S. Clark and Fire Commissioner Frank L. McNamee. Shown left to right are: Deputy Commissioner George E. Hink; Hoseman Frank J. Andrews, Engine 13; Hoseman Ernest H. Greiner, Jr., Engine 17; Commissioner McNamee; and Deputy Commissioner Paul B. Hartenstein.

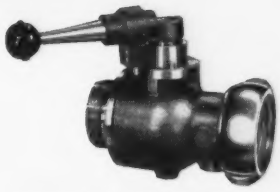
Hoseman Andrews rescued some of the employees by holding an 11-foot ladder over his head, becoming a "human extension," thus allowing them their only path of escape.

Hoseman Greiner forced entrance into the second floor from a ladder, rescued an elderly employee, and passed him through a window to the fire fighters shown at lower left. (*Photos by Hoseman Robert Kennedy, Philadelphia Fire Department.*

Products for the Entire FIRE FIGHTING FIELD

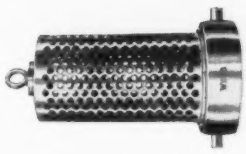
TRUMPET SIAMESE VALVES

Famous "Control-Flo" valve action, roller bearing swivel construction. Designed as short as possible (9") for apparatus body clearance. Available in 4", 4½", 5", or 6" diameter sizes.



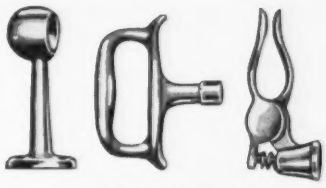
CONTROL-FLO APPARATUS VALVE

Operates easily at any pressure, in either direction. Controls hose pressures without changing pump speed. Throttle type handle locks "Control-Flo" valve in any position.



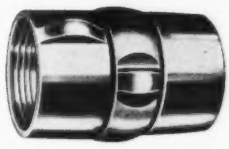
TRUMPET TUBE STRAINER

A suction strainer made of heavy cast brass throughout. The ample hole arrangements permits free suction to pump for maximum performance. Made to individual thread requirements in all sizes from 1½" through 6".



FIRE TRUCK FITTINGS

Wooster Brass can furnish highest quality truck fittings such as brackets, pole and bar holders, seat handles, hose clamp handles, axe holders, etc. Polished brass or chrome finishes available.



SKI-LUG FIRE HOSE COUPLINGS

Scientifically shaped to eliminate hooking when drawing hose lines over obstructions. Pin-lug couplings also available for fire hose, mill hose and linen hose. Full rounded lug contour reduces pulling friction.

TRUMPET SUCTION HOSE COUPLINGS

Available in 3 combination handle-lug types. The high quality workmanship and finish of Wooster Suction Hose Couplings will make you proud to put them on any equipment. Made with a free-action, roller bearing swiveling feature.

TRUMPET QUADWAY NOZZLES

The Quadway's fire fighting versatility has made it the standard nozzle of thousands of departments and industrial fire-fighting systems. Provides a finger tip choice of a solid straight stream, a dense fog mist, or a combination of both to any varying degree. Full choice of sizes.

GEYSER TURRET NOZZLES

Available in 2, 3, or 4-inlet types. Can be turned in a complete circle horizontally. Full adjustable vertical range. Operates safely at lower elevation ranges.

GEYSER DELUGE DECK PIPES

Mount on apparatus or wherever permanent fire protection is needed, such as lumber yards and oil fields. Has full 360° horizontal sweep and a vertical range of 10° below and 60° above horizontal.

The precision products shown here are just a few of the many items of cast brass fire equipment manufactured by Wooster Brass. Write for your catalog now . . . and consult your Wooster Brass representative for all your equipment requirements.

WOOSTER BRASS

WOOSTER OHIO

A DIVISION OF THE FYR-FYTER COMPANY

Control Critical Situations

with a

SIREN LOUD VOICE

in

- Rescue Work
- Crowd Control
- Search Parties
- Fires & Floods
- Instruction Classes

Portable battery amplifier leaves hands free. Light — only 12 lbs. Compact case. Built-in speaker, crystal mike, cord, batteries and trumpet. Standard batteries last 40 hours with continuous use. Case speaker easily heard in 100 x 100 ft. auditorium. Strong. Low Cost. Free Literature. Write Now.

Only $89.50

with trumpet $119.50
Chest Mike $7.50 extra

REX EQUIPMENT COMPANY

2014 Connecticut Avenue
Washington, D. C.

What's New In Fire Equipment?

Eagle Safety Can

The Eagle Manufacturing Company of Wellesburg, West Virginia, has developed a newly designed safety can which has been listed and labeled by Underwriters' Laboratories. According to the manufacturers the safety can meets the requirements of all states and municipalities having safety laws for the handling, transporting and storing of gasoline and other flammable liquids. It is available in 1-gallon, 2½-gallon, and 5-gallon capacities. For detailed literature write to the manufacturer at the above address.

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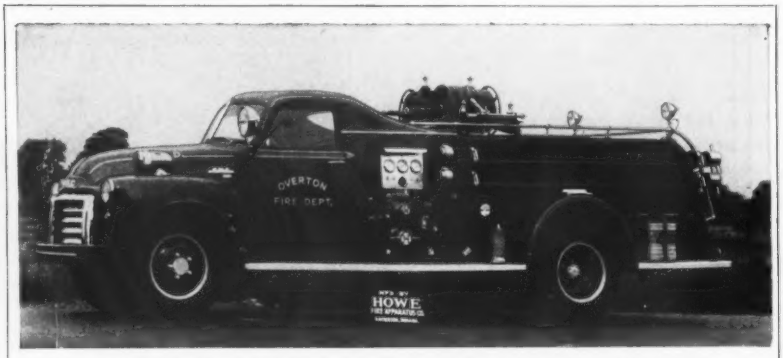

HOWE Fire Truck Equipment Meeting Every Service Since 1872
Centrifugal, Rotary, and Piston Pumps supplied
HOWE FIRE APPARATUS COMPANY, 1406 West 22nd Street, Anderson, Indiana

Quick Drying Floor Patch

A product known as "Superset TAM-PATCH" for repairing holes, ruts and other imperfections in concrete floors has been announced by United Laboratories, Incorporated, 16801 Euclid Avenue, Cleveland 12, Ohio. Manufacturer claims that the patched area can be used almost instantly, becomes smooth with traffic, and will withstand heavy loads. Further information may be obtained from the manufacturer at the above address.

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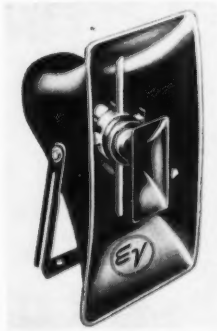

Public Address System

A new public address system for use in municipal disaster warning systems and similar installations has been announced by Electro-Voice, Incorporated, Buchanan, Michigan. Named the "CDP Compound Diffraction Projector" the unit is moulded of Fiberglass for improved strength and acoustical properties. It is designed for single or multiple use, indoors or outdoors, and, according to the manufacturer, is entirely weather-proof, blast-proof, and splash-proof. It is rated at 25 watts with 16 ohms impedance. For full details write to the manufacturer at the above address and request Bulletin No. 195.

●

Olin Multi-Use Lantern

A budget-priced, double purpose hand lantern designed for use as both floodlight and searchlight, has been announced by Olin Industries, 570 Lexington Avenue, New York, N. Y. The fireman-red enamelled all-steel lantern has a suggested retail price of $2.69, without batteries, and uses a standard size (No. 4812) railroad type Olin battery. The reflector can be unscrewed and the lantern thus converted into an emergency room light. With the reflector in place the focus can be adjusted from an extremely wide-angle close-in floodlight to a 1200-foot big beam spotlight. The base is solid and the off-on switch is of the heavy duty type. Further information may be obtained from the manufacturer at the above address.

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Fire Fighter here discharges FogFOAM onto burning gasoline through 2½" FFF Nozzle.

FogFOAM *puts smothering blanket over flaming liquids*

Rockwood Nozzle Turns out Perfect Proportions of Foam, Air and Water to put out highly volatile flammable liquids; action is instant

Just 3 parts of Rockwood Double Strength Foam added to 97 parts of water, and you've a special "mix" that's death to fire.

It does its job through a special Rockwood FogFOAM nozzle that turns it into smothering FogFOAM. You get far greater fire fighting extinguishing action than ever possible with old style chemical or mechanical foam equipment.

Tank-truck and airplane crash fires — fires aboard ocean going tankers — fires in refineries and industrial plants — are quickly and effectively smothered.

What's more, Rockwood Double Strength FOAM is faster spreading, flows freely at sub-zero temperatures, will not corrode and can be easily washed away after fire is extinguished.

Rockwood proportioning systems automatically control ratio of FOAM liquid to water ensuring proper proportioning regardless of number of nozzles used. They can be custom engineered to your requirements.

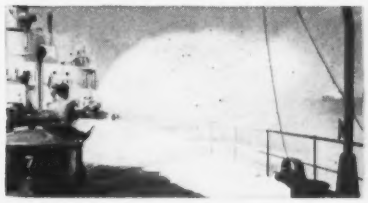
Plan now to have a Rockwood Engineer recommend the right fire fighting equipment to meet your needs. Mail coupon below.

ROCKWOOD

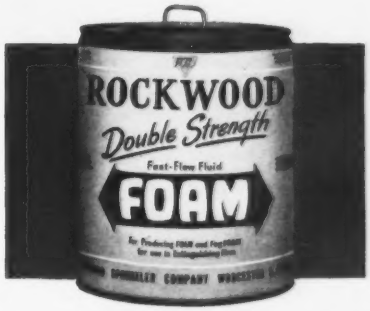
ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

Rockwood Type FFF FogFOAM Nozzle with FogFOAM Screen available for service on 1½", 2½", 3½" fire hose lines. Nozzles discharge Solid FOAM (with shaper), and High Velocity WaterFOG as well as FogFOAM (with screen). Range of FogFOAM with shaper approximately 60 feet, with screen 30 feet.



Fleet of Tankers is equipped with FFF Nozzles and proportioning system. Shown here, FogFOAM being discharged on deck and water during test. Ships must be protected from spill fires on water as well as aboard ship.



Rockwood Double Strength Foam — available in 5 gallon cans or 50 gallon drums. Tested by Underwriters' Laboratories.

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88 HARLOW STREET
WORCESTER 5, MASS.

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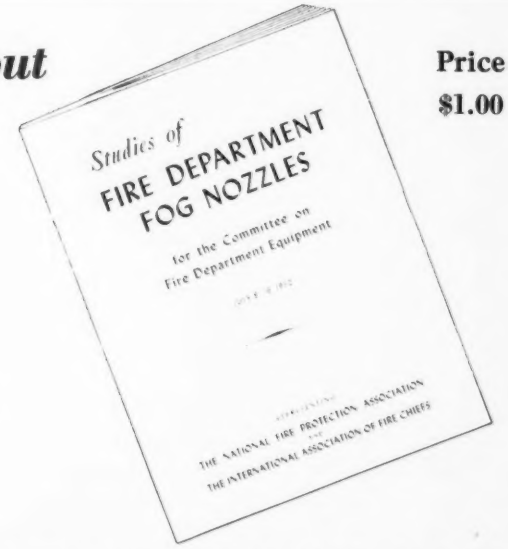
What Do You Know About

Fog Nozzles?


Studies of
FIRE DEPARTMENT FOG NOZZLES
for the Committee on Fire Department Equipment
THE NATIONAL FIRE PROTECTION ASSOCIATION
THE INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

Price $1.00

Vital information on 48 types of fog nozzles in this new publication will help you to make the best selection and use of fog nozzles for fire fighting.

What discharge characteristics can you expect from the fog nozzles used by your fire department? What are the best operating pump and nozzle pressures for those fog nozzles? Do you get the fog patterns you need to fulfill your fire fighting requirements?

"Studies of Fire Department Fog Nozzles" will give you some enlightening answers to questions concerning fog nozzles. It is a report by the NFPA-IAFC Committee on Fire Department Equipment which presents the results of a series of tests recently conducted at Elmira, New York. (See September, 1952, FIREMEN.)

Fire officers and pump operators will find its contents of particular value. Discharge characteristics of each nozzle studied are reported in easily-understood tables and photographs. Nozzles were operated at nozzle pressures of 50, 100, and 150 pounds with settings for angle patterns of 30, 60, and 90 degrees. The "Studies" report the GPM discharge of each nozzle, the desirable operating pump and nozzle pressures, and the patterns and effective reach obtained at various settings and pressures.

You can compare the results obtained through these studies with those you obtain from the fog nozzles in your fire department. The tables will tell you whether you are using the best operating pressures and hose layouts for effective fog application.

You should make "Studies of Fire Department Fog Nozzles" available to every member of your fire department.

Write today to the NFPA, or use this convenient order form.

NATIONAL FIRE PROTECTION ASSOCIATION, 60 Batterymarch Street, Boston 10, Massachusetts. **F-13-52**

Please send me ..... copies of "Studies of Fire Department Fog Nozzles."

Name .....

Street .....

City ..... **State** .....

☐ **Check for $** ..... **is enclosed.**

☐ **Please send bill.**